

TRAIL & *Landscape*

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A word of appreciation to Trail & Landscape's long and dedicated staff:
The OTFNC Field Naturalists' Club

The Ottawa Field - Naturalists' Club

(Incorporated 1980)

President

E. Franklin Pope

Objectives of the Club: To promote the appreciation, protection and conservation of Canada's natural heritage; to promote research, inquiry and provide the means of conducting all types of natural history studies of flora and fauna; to encourage members to conduct research; to support the club's efforts with organizations engaged in preserving and enhancing the natural environment of naturalists in Ottawa.

Club Publications: THE CANADIAN FIELD NATURALIST is a quarterly journal reporting research in all fields of natural history relevant to Canada. TRAIL & LANDSCAPE are living attempts at the natural history of the Ottawa Valley and local Club activities five times a year and THE SHORE is a quarterly newsletter concentrating in the Ottawa-Hull area, available by separate subscription.

Field Trips, Lectures and other natural history activities are arranged for local members, with "Opening Events" in the winter.

Membership Fees: Individual (yearly) \$17
Family (yearly) \$17

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President's Message

The President has had little to report in 1984. The Council is competent and effective; the affairs of the Club are well managed. Personally, I have made an effort to attend as many as possible of the events sponsored by the Excursions and Lectures Committee and I recommend that others do likewise. It is like a vacation at home. There are two items, however, that should be brought to your attention.

At the 105th Annual Business Meeting last January there was a discussion on a motion by Roger Taylor, seconded by Joyce Reddoch, that the name of the Club be changed from "The Ottawa Field-Naturalists' Club" to "Ottawa Field Naturalists". The motion was not voted upon at that meeting because official notice of the motion, as published in Volume 97, Number 2 of *The Canadian Field-Naturalist*, had not been distributed in time.

During the discussion the following points were made. (1) Everyday references to The Ottawa Field-Naturalists' Club seldom articulate or spell the Club name correctly. This is a particular nuisance to editors. (2) The sponsors of the motion intended only to stimulate debate and had no strong preferences. Their order of priority was to delete first the hyphen, then the apostrophe, the "The", and finally "Club". (3) Actually, the official name of the Club as recorded in the act of incorporation in 1884 does not have a hyphen; therefore, the name displayed by the Constitution is not legally correct. (4) It would cost about \$250 to change legally the name of the Club. (5) It is possible, however, to adopt an alternative name for use in everyday reference while the official name remains for legal documents. For a fee of \$10 the alternative name could be registered and thereby protected for our use. This issue will be discussed further and voted upon at the Annual Business Meeting on January 8th.

The second item is the Carp Hills, a significant local natural area. It was one of a number of natural areas identified, described and recommended for protection by the Club during the formulation of the Official Plan of the Regional Municipality of Ottawa-Carleton over a decade ago*. Later, when Amendment 12 to the Official Plan was before the Ontario Municipal Board, the Club prepared briefs and appeared in defence of the Official Plan. The outcome was a reduction in the protection given natural areas and in the land area designated for this

* See Conservation Activities (*Trail & Landscape* 14(3): 81-85 (1980)) for a thorough review article on the 23 Natural Environment Areas identified in the Plan. Eds.

protection, but it seemed that a fair method of solving conflicts between land use for development and protection of natural areas had been established. The effectiveness of the Official Plan as an instrument to protect these natural areas was tested for the first time by the recent application to build 99 houses in the middle of the Carp Hills.

Once again the Club came to the defence of the Carp Hills, this time as part of the Carp Hills Action Committee. A brief describing the natural features of the Carp Hills and why they should be preserved was presented to Regional Council. Council members were contacted personally on a number of occasions. In addition to our efforts, the Planning Department of the Regional Municipality recommended purchase of the land, and press coverage generally supported retention of the land as a natural area. To our dismay, on September 12th, Regional Council voted to approve the subdivision proposal. This action appeared to violate the Official Plan and the integrity of a significant local natural area. Furthermore, a precedent that left little hope for the preservation of the other natural areas designated in the Official Plan had been established.

A glimmer of hope came from the fact that the vote had been close, and following usual procedure, Regional Council postponed a final decision on the matter until the next meeting. Discussions with our lawyer and a number of municipal officials revealed that a request for referral of the matter to the Ontario Municipal Board, if made before a final decision by Regional Council by a responsible organization and for good reason, should be accepted. We felt confident that the Board, given the same evidence, would support the planning legislation by a decision to purchase the land. Such hearings are expensive though, and we had to consider the impact upon Club finances, membership dues and our commitment to Alfred Bog. Yet, quick action was imperative, and it appeared that without an initiative by the Club the issue would die. Did we have the courage of our convictions? On September 21 the President delivered an official request for referral to the Regional Clerk. Once again we were to be disappointed. On September 26, against the advice of the Regional Solicitor, Regional Council made a final decision to approve the subdivision application.

The question then became whether or not the action by Regional Council had been in accordance with the Ontario Planning Act. Many of our advisors thought not and that reference of the matter to the Ontario Supreme Court would result in a judgement overturning the decision by Regional Council and referring the matter to the Ontario Municipal Board. The Club had by now established itself as a leader in the opposition to the subdivision proposal, but funding was critical. Learning that there was a possibility of funding from the City of Ottawa, we made a presentation to the Ottawa Planning Committee. This action resulted in a decision by the Ottawa City Council on October 17

to allocate \$20,000 for legal fees incurred by the Club in representations before the Ontario Supreme Court and the Ontario Municipal Board. That brings us to the time of writing.

Your executive and Council have not taken this matter lightly. We regret the delay in arriving at a final decision and the extra effort and expense this has caused the subdivider. We appreciate the effort by members of Regional Council to understand the issues and select the best among many good alternatives for spending taxpayers' money. Members of Regional Council sacrifice much for their fellow citizens and receive too little thanks. Yet we are convinced that the majority have misjudged this issue and the value of these lands to future generations. Few people today would consider the Greenbelt a mistake although many questioned the expense at the time. On behalf of The Ottawa Field-Naturalists' Club, I thank Roger Taylor, Marey Gregory and the rest of the steering group that powered the Carp Hills Action Committee. □

Frank Pope

Trail & Landscape Deadlines

<u>Date of Issue</u>	<u>Deadline</u>
March-April	December 29
May-August	March 2
September-October	June 29
November-December	August 31
January-February, 1986	October 26
March-April, 1986	January 4

Material intended for these issues must be in the Editor's hands before the deadlines for consideration. Long articles and articles that will be refereed must be submitted at least two months before the deadlines indicated.

Council Report

Bill Gummer

As members know, The Ottawa Field-Naturalists' Club has been very concerned about the proposal for residential development of a significant part of the Carp Hills, an area of Precambrian rocks and rather distinctive fauna and flora. The area is unique among terrains in Ottawa-Carleton. We have followed closely the municipal actions and reactions, and subsequent to Regional Council's September approval of the development, have decided to challenge the decision not to refer the issue to the Ontario Municipal Board. This subject is covered in detail in the *President's Message* on the preceding pages.

Earlier this year some difficulties were foreseen in maintaining the desirable level of activity in the Macoun Field Club. The situation now presents a somewhat more positive picture due first to the efforts of Diana Laubitz, and now to the input of Robin Collins, himself an alumnus of the Macoun Field Club. A forward program is shaping up, and Robin plans to involve members, particularly of the senior group, in studies on subjects including aspects of evolution, and social problems such as acid rain. Actual involvement of members has proved valuable in the past. Year-round monthly field trips are planned. However, Robin cannot carry the whole load alone. **Additional help is urgently required** if the Macoun Field Club is to continue to operate at a useful level. Interested persons should contact Robin Collins at 233-7484 after 4 p.m., or Diana Laubitz at 521-7458.

If one considers the various activities of the Club and its working committees, it is obvious that a tremendous amount of paper is in use, and that typing, sorting, mailing and computer facilities are more and more in demand. At present, the various activities are carried out in many different places, private homes and museum areas in particular. Records are widely separated and not always readily available to interested persons. The ultimate value of having an office, or luxuriously an office plus a meeting room, is periodically discussed, and has now been considered once again. The Club is not in a position to lease conventional office space, for which rentals are high. A review is to be made of the potential operations that might be brought together for efficiency, and identification of possible sites where suitable space may be readily available will be attempted. ▢

Federation of Ontario Naturalists

Report

Roger Taylor

After the usual summer hiatus, the FON Board of Directors met in Toronto in late September. Without doubt the most exciting news was the report that 20 years of lobbying and hard advocacy on the part of the FON and associated organizations had resulted in a plan that will provide effective protection for the Niagara Escarpment.

Concerns about the escarpment surfaced in the early 1960s just as the Bruce Trail Association, originally an FON committee, was beginning operations. Persistent lobbying by the FON led to the establishment of the Niagara Escarpment Commission (NEC) in 1972 and also to the passage of the Niagara Escarpment Planning and Development Act. The NEC was given the task of preparing a detailed plan for land use within the Niagara Escarpment, a task that took much longer than intended because of political infighting by development-oriented municipalities.

The draft plan, released in the late 1970s, was savagely attacked by vested interests. The entire effort might have gone for nought. However, FON activists and volunteers, most notably Lyn MacMillan, coordinated a massive outpouring of letters and telephone calls, a march at Queen's Park, and extensive media coverage. Other conservation-oriented groups were brought into the action by the formation of the Committee on the Niagara Escarpment (CONE) with Lyn MacMillan as chairman. Lobbying of the Ontario government continued unceasingly right up to the time of the recent announcement by Provincial Secretary for Resource Development, Norman Sterling, to the effect that the basic plan proposed by the NEC was adopted. There are some loopholes, pertaining principally to quarries, but, on the whole, environmentalists are pretty well satisfied. This whole exercise demonstrates how important it is to have in place a strong provincial environmental organization such as the FON. Our congratulations go to all those activists, particularly CONE and its chairman, Lyn MacMillan, who put so much time and effort into saving the Niagara Escarpment.

Still on an environmental note, despite a heavy involvement in provincial conservation issues, the FON only recently put into place a formal conservation committee to cooperate with the staff environmentalist. I have been asked to chair this committee and have been assembling a team of activists from across the province to maintain contact with federated Clubs, to report on issues of possible provincial significance, to coordinate ac-

tion, and to establish priorities on issues that require FON involvement. After reading about the Niagara Escarpment, I am wondering what I have let myself in for.

Looking forward in 1985, the FON Conference will be held at McMaster University, Hamilton, on May 24-26. The chairman of the organizing committee, Peter Thoem, promised the Board of Directors an exciting and stimulating three days with a strong emphasis on the Royal Botanical Gardens. On Friday, May 24, there will be two or three field trips in the afternoon, followed by the business meeting in the evening. On the Saturday there will be four blocks of three concurrent lectures featuring top-notch speakers including Kay McKeever of the Owl Rehabilitation Research Foundation. There will be also a boat trip around Hamilton harbour, as well as the Photo Salon in the afternoon, followed by the banquet in the evening. Approximately 12 field trips will take place on the Sunday, including a bird-watching excursion leaving at 4:30 a.m.! It sounds great. Perhaps you could start planning for it now. Details will accompany the Winter issue of *Seasons*. □

Jo Carson — *in memorium*

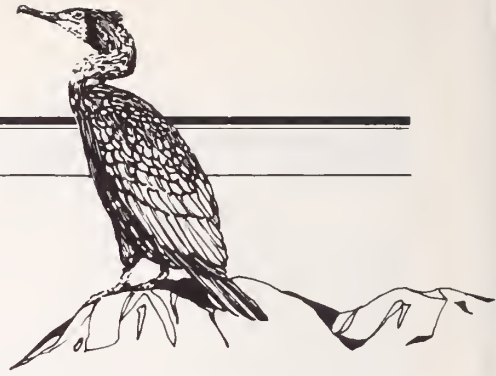
Jo Carson, an active member of The Ottawa Field-Naturalists' Club, passed away last October. All those who participated with Jo as she pursued her many natural history interests will miss her constant cheerfulness and enthusiasm. She was particularly active in the field of nature photography but found time to write three articles for *Trail & Landscape*.

Jo spent her professional life as a journalist working for many Ontario papers, ending up at *The Globe and Mail*. She retired in 1977 to her country home near North Gower, where she became even more active in her photography pursuits. Jo was a member of many national photographic associations and was a regular recipient of many prestigious photography awards.

Jo Carson will long be remembered for her work but even more for her ceaseless good humour and willingness to share her time and talents with others. □

Recent Bird Sightings

V. Bernard Ladouceur



Water levels along the Ottawa River and at most area sewage lagoons continued to be high during the months of September and October. There were very few real highlights, and birders had to work hard to see some of the normally common species.

The Labour Day weekend turned out to be schizophrenic. On the Fall Bird Count on September 2nd, Ottawa birders slugged their way to 174 species while producing little of real interest. The next day, however, was perhaps the best day of the year. A front from the northwest was the difference, and as usual Shirleys Bay was the hot spot. A Whimbrel and a Red-necked Phalarope flushed near the base of the dyke were the first indicators of a good day. The real rarities flew by the tip of Shirleys Bay dyke with a Black-legged Kittiwake and a Parasitic Jaeger being seen approximately an hour apart. These may be the earliest autumn records for both these species. The Kittiwake was later seen at Ottawa Beach and Britannia. The same day, a second Whimbrel was observed (and heard) flying low over Kirkwood Avenue near the Queensway. I wonder what flew by unobserved!

On September 9th, I participated in the Fourth Annual OFNC Seedathon. I found 106 species and raised over \$400 for bird seed to fill the Club feeders. It wasn't the easiest way to 106 species as I had three different drivers and was stranded 2½ hours at Shirleys Bay (although there isn't a better place to be stranded - I saw all three Accipiters and a Northern Raven soaring together while I waited!). My thanks to my drivers, Mike Thibert (motorcycle - owling), Isabelle Nicol and Art Thompson.

Summarizing the rest of the period, we will begin with...

Birds on the Water: The normally common loon, the Common Loon, was anything but common until late October. The relatively rare Red-throated Loon was observed several times throughout October; however, these sightings may have been of just two individual birds lingering on Lac Deschênes.

The Double-crested Cormorant, once relatively scarce, continued to be noticed in good numbers. (Do they breed here?) The Fall Count produced 36, and later in September there were as many as 34 at Shirleys Bay. Other areas of concentration in-

clude Champlain Bridge and Thurso.

An early Snow Goose was observed September 21st at Shirleys Bay. Ducks included as many as 10 Ruddy Ducks, a few flocks of Redheads, and, on October 28th, a King Eider (probably an immature male) all seen at Shirleys Bay. Gadwall and Shoveler numbers appeared to be down somewhat, and Canvasbacks were not noted until November.

Birds of Prey: There were a few Peregrine Falcons and Merlins reported, and Short-eared Owls were seen for the first time in over a year.

Birds of the Shore: What shore? Shorebirds were scarce indeed. Aside from the Whimbrels, late records of Red Knot, Wilson's Phalarope (both September 16th), and Red-necked Phalarope (September 26th) were of interest. A Hudsonian Godwit (October 20th) at Winchester Sewage Lagoon was the best shorebird find of the period.

Birds of the Dump (and just about everywhere): The Black-legged Kittiwake was the best find among gulls. Other finds included at least four different Lesser Black-backed Gulls (all adult or third-year birds) and a Glaucous/Herring Gull hybrid on October 10th-11th. The first Thayer's Gull of the autumn was observed on October 1st. White-winged gulls were early with Glaucous and Iceland Gulls being recorded on October 7th and 10th, respectively.

Birds of the Bush: It has been a quiet fall in this department too. I don't think we can blame it on high water levels. There were some nights with major migrational movements, and warm weather in mid to late October had some species staying a little later than usual.

Four Red-headed Woodpeckers were found behind Shirleys Bay, and there were a few scattered reports of Black-backed Woodpeckers. No (Northern) Three-toed Woodpeckers have been reported in 18 or 19 months, but we hope to see some this winter.

There were no rare flycatchers, but a small movement of Yellow-bellied Flycatchers was evident in the first two weeks of September.

A few Common Ravens were noted in and around the city at Shirleys Bay, Greens Creek and even at the Children's Hospital.

As said earlier, there were several good migration nights in September. The Swainson's Thrush is one of the most abundant and evident of night-time migrants. Most recordings of Swainson's Thrush give examples of the short "heep" note which is often heard as the birds fly overhead. On the night of September 11th-12th, three observers (listeners) estimated 8000 of

this species. Imagine that we could turn on the lights and see hundreds of thousands of birds over us! To get a small taste of what was happening, two of the observers focussed their telescopes on the full moon and watched the birds stream by.

There were smaller numbers of other thrushes noted, including five Gray-cheeked Thrushes heard migrating before dawn on the Fall Bird Count on September 2nd.

A few Yellow-throated Vireos were reported in September. A male Hooded Warbler was reported from Champlain Lookout.

House Finches continue to make their presence felt with up to 20 observed at one feeder. Two Pine Grosbeaks observed in the northern part of our area on the Fall Bird Count were early. Excellent White Pine and White Spruce cone crops indicate that we are in for an excellent finch winter. Numbers of Purple Finch, American Goldfinch (abundant), White-winged Crossbill, Pine Siskin (fairly common), and Red Crossbill (few) have been recorded. By the time you are reading this article we hope you will be experiencing Ottawa's first finch winter in years. ▣

Bill Coburn — *in memorium*

The Ottawa birding community lost one of its best-loved members in October with the sudden death of Bill Coburn. An enthusiastic birder and ever-obliging volunteer for Club birding activities, Bill's interests ranged from field study to bird drawing and photography. He had only recently expressed a desire to combine his talents for art and birding to forge a new career. Full of warmth and good humour, Bill always had a ready laugh and a generous nature - as many a birder in need of transportation can testify!

Bill was an OFNC member since 1982, yet in this short time he managed to leave an indelible impression on the Club. For two years he participated actively in the Birds Committee (missing not one meeting), co-coordinated the 1983 Ottawa-Hull Spring roundup and Christmas Bird Count. He contributed bird observations regularly to *The Shrike*, led bird walks, was active in the Ontario Breeding Bird Atlas project and found time to write a *Recent Bird Sightings* article for *Trail & Landscape*.

A dedicated family man, Bill's love of birding was exceeded only by his devotion to his wife, Valerie, and their young sons, Jason and Benji. Bill's contributions will be missed, and he will be remembered with affection. ▣

Everything We Wanted to Know . . . About the Teasel

Ross Anderson

In a previous article, *Etymology of the Teasel* (Trail & Landscape 18(2): 74-75 (1984)), readers were asked if they had found teasel around Ottawa and, if so, whether or not it had been used in the manufacture of cloth. The Editor's mail box was not swamped with replies. The number of answers suggests that no one had, in fact, observed the teasel in this area and could not, therefore, say if it had a relationship to mills or to anything else!

Mary Stuart suggested, with good reason, that anyone who picked teasel should dispose of the seeds in sanitary fashion before they got spread around*. Our Editor kindly informed us about the use of Fuller's Teasel (*Dipsacus fullonum*) in the Asselstine Factory at Upper Canada Village. Now I can confirm that the Common or Card Teasel (*D. silvaticus*) was growing last summer on newly-filled land along the Ottawa River just above the Chaudière Bridge in Hull, Gatineau County, where I observed it in bloom from August to October.

Discussion with the millers at Upper Canada Village discloses that Fuller's Teasel is now procured from England, and that it used to be obtainable from Skaneateles in New York State. The fulling drum at Upper Canada Village, which they operate regularly to demonstrate the manufacture of blankets in the period around 1867 (The St. Lawrence Parks Commission, undated), is faced with no fewer than 2000 teasel heads. To understand how this works, imagine that a blanket when first woven has a hard surface which feels like heavy canvas. The woven blanket must be wetted with hot water, to set and shrink the material, and then brushed or fullled to bring up the nap, making it soft and warm.

The reason for using Fuller's Teasel for that part of the manufacturing process is found in the natural resilience, strength and shape of the 'tines'. The tines of Fuller's Teasel are stiff and uniformly hooked. The tines of Common Teasel are straight and considerably slimmer.

* Mary recalls being assigned the job of pulling teasels from the fence-corners on the family farm in Prince Edward County. Try it!



CRA Sept '84

Dipsacus sylvestris, Gatineau City

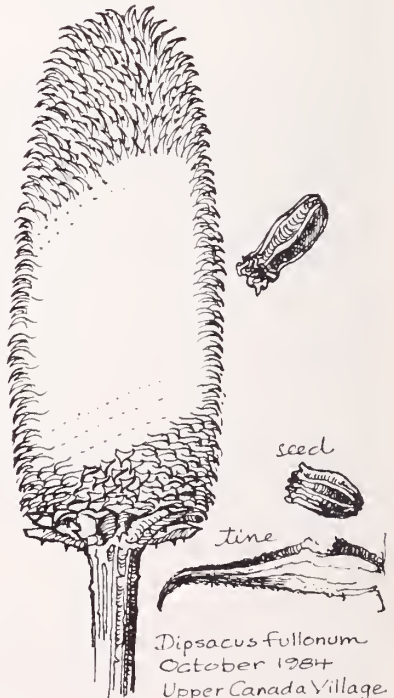


Card teasel, *Dipsacus sylvestris*

The wild or card teasel was still in bloom on September 20 in Gatineau County. Although prickly, the straight tines of this teasel are slim and pliable and not suitable for fulling cloth. As the name suggests it may have been used in pioneer times for "teasing" or carding flax and wool.

Fuller's teasel, *Dipsacus fullonum*

This teasel with hooked tines is used in the Asselstine Factory at Upper Canada Village for fulling blankets. The heads, already cut and dried but with a few seeds remaining, are imported from England. Paced together, 2000 at a time, on the 1867 fulling drum, the fuller's teasel is strong and stiff enough to raise the nap on heavy woven cloth.



Dipsacus fullonum
October 1984
Upper Canada Village

There is also a reference to the use of teasels for the carding of wool - and flax - in pioneer times. This procedure is explained by E.C. Guillet (1940): "... the good silky fibre was separated from the coarse tow or shives by combing the slightly moistened fibre (using) the large prickly head of the teasel or fuller's thistle."

To observe how the Common Teasel, alien to North America like all teasels, got around, you will find it growing in the garden of the schoolmaster's house in Upper Canada Village as a decorative flower. From there to the other side of the split-rail fence and into the wide-open field is just a step.

Now it is found in meadows and hedge-rows, "on the other side of the fence", throughout most of southern Ontario south-west of the Precambrian Shield.

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Guillet, E.C. 1940. Pioneer Arts and Crafts. University of Toronto Press, Toronto, Ontario.

The St. Lawrence Parks Commission. undated. Upper Canada Village "Ontario's Living Heritage". Morrisburg, Ontario. ▢

A Note on Nomenclature and a Useful Reference:

Jocelyn Webber, Editor of *The Plant Press*, recently sent the following information:

"As both of the taxa mentioned originated in Eurasia, *Flora Europea* should be considered the authority - there the name *Dipsacus sativus* (L.) Honckeny is given for the cultivated teasel, with the name *D. fullonum* sensu Miller as a synonym. The common species in southern Ontario is *D. fullonum* L., with *D. sylvestris* Hudson as a synonym. ...

"Other information on *Dipsacus fullonum* (as *D. sylvestris*) is included in P. A. Werner. 1975. The Biology of Canadian Weeds. 12. *Dipsacus sylvestris* Huds. Can. J. Plant Sci. 55: 783-794. (also published by Agriculture Canada in Contributions 1-32)." ▢

An Additional Record for Stinkpot Turtle in the Ottawa District

Daniel F. Brunton and Karen L. McIntosh

The Stinkpot or Musk Turtle (*Sternotherus odoratus*) is one of the Ottawa District's rarest reptiles, known only from Pakenham, Appleton and Innisville on the Mississippi River, and from Kemptville and Manotick on the Rideau River (Cook 1981, Brunton 1981). Its rarity is due in part to the fact that its population is low here at the northern limit of its range and partly because of the turtle's secretive habits. Stinkpots don't bask very much, unlike our familiar Painted or even Blanding's Turtles. When a Stinkpot is seen, which is rarely, it is walking along the bottom of a river, poking into crevices and crannies in aquatic vegetation, stream-bottom boulders, sunken logs and so forth looking for bits of carrion. Its small size and dull colour - giving it the appearance of a round stone under water - complicates observation. (Cook (1981) describes this turtle clearly, and Brunton (1981) has a photograph of an immature animal.)

On July 1, 1984, we canoed the western end of the Mississippi Snye (the "Snye" is the south branch of the Mississippi River mouth at the Ottawa River), about 1 km north of Galetta, to investigate some of the interesting features reported from adjacent Morris Island by Dugal and Reddoch (1980). When we were about 100 m upstream (west) of the bridge moving through 60-cm deep, crystal clear water that was flowing through a dense bed of pondweeds (*Potamogeton zosteriformis* and *P. pusillus*), we noticed a small (10-cm long), dark-backed turtle walking along the bottom in the clear channel beside the pondweeds. The bottom here is white, being composed of marble chips washed out of the Kingdon Mine tailings pile just upstream, and so the turtle was very easy to see. It was slightly oval in shape (perhaps a bit narrower at the front end) with an overall dull blackish-brown, unmarked carapace. A white mark was visible, although not conspicuous, on the side of its dark head, and the tail was tiny - barely extending beyond the shell. These are all good features of an adult Stinkpot Turtle (Conant 1975, Cook 1981). Although we stopped immediately and attempted to capture the turtle to photograph it, it had moved off into the pondweeds and disappeared.

It would certainly seem that the Stinkpot is most regular in the District along the Mississippi River since the majority of our records are from there. This latest sighting also indicates that it is in the Ottawa River system, at least near the mouth of the Mississippi River. Since it is found also in the

Rideau River, it seems reasonable to expect it all along the Ottawa between the Mississippi and the Rideau.

As an aside, we can recommend heartily the Mississippi Snye from the Kingdon Mine Road to the North Channel Dam as an excellent day trip (for canoes only). Not only were we out of sight and sound of others for the whole afternoon in a lovely landscape, but we observed a rich assortment of animal life, including Map and Painted Turtles, lots of Large-mouth Bass, a Gar Pike and a Channel Catfish, many species of birds and had close-up encounters with Beaver and Muskrat. And the botanical resources were even richer!

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- Dugal, A. and J.M. Reddoch. 1980. Morris Island. *Trail & Landscape* 14(1): 18-24. □

Ottawa-Carleton Eco-tour

Pollution Probe Ottawa-Carleton introduces Ottawa's own Eco-tour, a walking, bicycling or anyway you want to go environmental tour of downtown Ottawa.

Probe invites you to tour the 16 sites on the route to find out more about the local ecology and how you fit in. See how acid rain affects the Parliament Buildings, how a solar-heated car wash works, and where we're heading with our transportation system.

Tour booklets and a cartoon map may be obtained for free at Pollution Probe at 53 Queen Street, Ottawa K1P 5C5, or call 235-9266.

The Overwintering of a Common Snipe in the Ottawa Area

Bruce M. Di Labio

On January 31, 1984, Eric McGinn discovered a Common Snipe (*Capella gallinago*) feeding along an open stretch of the largely frozen Beaver Brook in Kanata (fig. 1). Despite the snow and cold it appeared healthy and was very alert. It was able to fly but showed a great reluctance to leave the creek. When flushed it would fly only a short distance and then land again in the creek and continue feeding. The snipe was seen on several occasions subsequently by both Eric and the author, the last sighting being in late March by McGinn. The bird was photographed by the author on March 17, 1984 (fig. 2).

This is the first known successful overwintering of a snipe in this area. Two years previously, in 1982, a Common Snipe was present on the same creek from February 5th to 11th (Bell and Di Labio 1982) but was not relocated; and its overwintering success could not be determined. Because the 1984 bird disappeared on occasion for several days at a time and then came back to the



Figure 1. The stretch of Beaver Brook in Kanata where the Common Snipe was observed during the winter of 1984. Both photographs from slides by the author.



Figure 2.

creek, we must conclude that there were other suitable areas nearby. The bird from 1982 may have survived the winter but was out of the sight of interested observers.

Normally Common Snipe depart this area by late October, however, some remain into November. Lloyd (1944) reports that a dead one was found at Rockcliffe Park on February 19, 1933. Common Snipe have been reported on two Ottawa-Hull Christmas Bird Counts, single birds in 1970 and in 1978 (Di Labio 1983). (The 1970 bird was still present in mid-January.)

The survival of a Common Snipe through the coldest part of our Ottawa winter is a remarkable feat. It appears that the basic requirement is to have open water which is shallow enough to enable the bird to feed. Records of Common Snipe from other areas in southern Ontario are also from areas of shallow open water (Tozer and Richards 1974, Beardslee and Mitchell 1965). The snipe seems to be able to tolerate -30 degree temperatures if food is available.

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Water Babies

Larval Fishes of Ottawa and Vicinity

Part IV. Larval Fishes of Deep Water Species

Daniel J. Faber
National Museum of Natural Sciences
Ottawa

In the summer of 1958, I returned home from studying the planktonic animals living in Narragansett Bay, Rhode Island. I was extremely excited because I had just received a letter which offered me a grant to study the recruitment of Walleyes (Pick-erel or Doré jaune) in several small lakes. After my experience in saltwater in Narragansett Bay, I had developed a theory that pelagic or limnetic baby fish were living in the small lakes that pockmarked glaciated countrysides. Could it be that baby Walleyes and other fishes took up a life in the deep part of these small lakes?

Earlier, I had received permission to spend my first summer at the northern Wisconsin Biological Station where the famous pair, Edward A. Birge and Chauncey Juday, had spent the turn of the century developing basic concepts of North American limnology. The Station consisted of five sleeping cabins and one large cabin which was used as a laboratory. I would work where 'they' worked and would sleep where "they" slept. I felt honoured and thought this would be an opportunity of a lifetime. I was not disappointed.

During the following winter, I constructed a make-shift plankton net that could be towed from a small aluminum boat. I bought special Swiss silk bolting cloth which was normally used to sift flour at flour mills. I bent a piece of round iron into a near-circle, welded it, and attached the plankton net to it with a small cord. The end of the large, conical-shaped net was tied off with a shoelace from a hockey skate. Now I was ready to strain the tiny living organisms out of the lake water to find out if baby fish lived there. Somewhere I had read that baby fish could be more easily captured when it was dark than when it was light. Something to do with dodging the net, I thought. So I prepared myself to work after sunset.

Just being beside small isolated lakes at night with the moon reflecting upon their waters arouses exciting and romantic emotions within me. I put my boat and motor onto Little John Lake while Mallards and Black Ducks scurried away to find other roosting sites. Ice had recently left the lake so the water was still cold to the touch. One could smell the strong aroma of fresh fish; I decided that this smell arose from the spawning

activities of several species of fish which were in the midst of creating new lives along the shore. Every so often the sound of a jumping or rolling fish pierced the silent evening.

I motored slowly out to the middle of the lake using moonlight to guide by. After stopping, I lowered my large homemade plankton net into the water by means of a pulley and a small nylon cord. I started up the motor, put it into first gear, and watched to see that the net was "fishing" correctly while still away from the propeller of the outboard motor. It was early spring and the water was crystal clear and free of algae that "dirtied" the water later in summer. I towed the net for five minutes just below the surface of the water, but those five minutes seemed like a lifetime. The anticipation was unbearable. Finally I stopped the motor, carefully lifted the end of the net into the boat, getting all wet in the process. I carefully untied the shoelace, and, low and behold, there were almost a hundred transparent baby fishes. I had proved my theory that there were indeed deep water larval fishes living in small lakes. Scientific studies that arose directly or indirectly from that evening in the spring of 1959 include the following: Faber (1967, 1968), Werner (1969), Amundrud *et al.* (1974) and Storck *et al.* (1978).

This is the fourth and last article of this series on the larval fishes of Ottawa and vicinity. The first article was titled *Distribution and Phenology of Baby Fishes in Lakes and Ponds*, the second was *Anatomy of Larval Fishes*, the third was *Larval Fishes of Shallow Water Species*. This last article illustrates species that live limnetically in deep water.

Larval fishes can be collected with a variety of collecting devices such as hand dipnets, fine-mesh seines, plankton nets, and traps. These young vertebrate embryos are extremely delicate and must be handled with care. They can be collected and fixed with dilute formalin. Beer or wine works in an emergency. After fixing with a preservative, their tissues turn opaque and whitish; to observe them alive and transparent, they must be transferred quickly from the collecting device into a container with fresh water. Living larval fishes are, of course, best obtained by collecting living eggs and hatching them in an aquarium. Some eggs are collected easily by snorkeling over nests where male fish guard developing eggs. Some eggs are impossible to locate because the exact spawning areas are still unknown.

The baby fishes discussed here normally live in deep water out beyond weedy areas. These species are represented by the early life of the Pumpkinseed Sunfish as described in the first article in the March-April 1984 issue of *Trail & Landscape*.

Table 1 lists the species described and illustrated in this article. They are arranged alphabetically by family. Both English and French common names are included with their scientific names. These deep water larval fishes are the most difficult to capture and study because they are almost completely transparent. The only exception to this rule is the juvenile of Lake Trout, which hatches in deep water but its dark dorsal pigmentation suggests that it lives along the shore in shallow water.

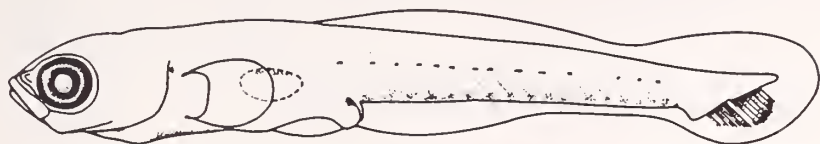
Table 1. List of Deep Water Larval Fishes Described

<i>Family</i>	<i>Species</i>	<i>Common Names (English, French)</i>
Atherinidae	<i>L. sicculus</i> (Cope)*	Brook Silverside, Crayon d'argent
Centrarchidae	<i>L. gibbosus</i> (L)	Pumpkinseed, Crapet-soleil
	<i>P. nigromaculatus</i> (Le Sueur)*	Black Crappie, Marigane noire
Gadidae	<i>L. lota</i> (L)	Burbot, Lotte
Osmeridae	<i>O. mordax</i> (Mitchell)	Rainbow Smelt, Eperlan arc-en-ciel
Percidae	<i>E. exile</i> (Girard)*	Iowa Darter, Dard à ventre jaune
	<i>P. flavescens</i> (Mitchell)	Yellow Perch, Perchaude
	<i>S. vitreum</i> (Mitchell)	Walleye, Doré jaune
Salmonidae	<i>C. clupearformis</i> (Mitchell)	Lake Whitefish, Grand corégone
	<i>S. namaycush</i> (Walbaum)	Lake Trout, Touladi

* Commonly found in both deep water and shallow water habitats. These larvae were described in Part III (Trail & Landscape 18(5): 273-283 (1984)).

DESCRIPTIVE ACCOUNTS OF DEEP WATER SPECIES

Pumpkinseed (*Lepomis gibbosus*) Crapet-soleil



Lateral view, 7.0 mm (illustration by Sally Gadd)

Diagnosis: Pumpkinseed larvae hatch in nests from adhesive, demersal eggs at a length of 2.5-3.5 mm during June, July and August. They live in open water just beyond the littoral beds of aquatic weeds. Pumpkinseed larvae are identifiable by their small size, short intestine and parallel series of melanophores along the mid-lateral and ventral body.

Burbot (*Lota lota*) Lotte



Lateral view, 4.5 mm (illustration by Sally Gadd)

Diagnosis: Burbot larvae hatch from non-adhesive eggs at lengths of 3-4 mm in early spring. They live in open water in deep lakes. Burbot larvae are identifiable by their small size, short intestine and linear series of melanophores along both dorsal and ventral body.

Rainbow Smelt (*Osmerus mordax*) Eperlan arc-en-ciel



Lateral view, 16.0 mm (illustration by Sally Gadd)

Diagnosis: Rainbow Smelt hatch from adhesive eggs, which attach to the substrate by a slender stalk formed from the outer coating of the egg. They hatch mainly in small runoff creeks in early spring at lengths of 4-5 mm. Rainbow Smelt larvae are identifiable by their slender shape, long intestine, absence of pigmentation along the dorsal body and a linear series of melanophores along the ventral body.

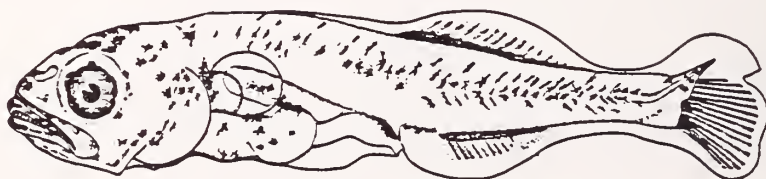
Yellow Perch (*Perca flavescens*) Perchaude



Lateral view, 10.4 mm (illustration by Sally Gadd)

Diagnosis: Yellow Perch larvae hatch from eggs contained in gelatinous egg masses which are shaped like accordian-folded strands about 4 cm thick. They hatch in shallow lakes and rivers during May and in deeper lakes during June. They live in open water areas of both shallow and deep lakes. Yellow Perch larvae are identifiable by their length of intestine, presence of air bladder, and parallel series of chevron-shaped melanophores along the mid-lateral body.

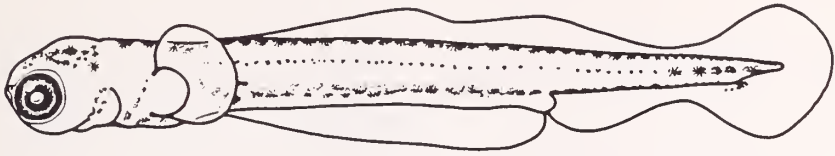
Walleye (*Stizostedion vitreum*) Doré jaune



Lateral view, 12.5 mm (illustration modified from Fish 1932)

Diagnosis: Walleye larvae hatch from non-adhesive eggs at lengths of 7-8 mm. They live in open water in rivers and lakes. Walleye larvae are identifiable by their intestine, the presence of canine teeth, and the irregular series of melanophores along the mid-lateral body.

Lake Whitefish (*Coregonus clupeaformis*) Grand corégone



Lateral view, 12.2 mm (illustration by Sally Gadd)

Diagnosis: Lake Whitefish larvae hatch from 10.5-11.5 mm during the month following ice-breakup (April or May). They live in the top metre of water in deep lakes. Lake Whitefish larvae are identifiable by their long intestine and linear series of melanophores along the dorsal, ventral and mid-lateral body.

Lake Trout (*Salvelinus namaycush*) Touladi



Lateral view, 30 mm (illustration from Auer 1982)

Diagnosis: Lake Trout hatch from large, non-adhesive eggs at lengths of 15-16 mm. They emerge from deep-water beds (gravel nests) at lengths of 20-25 mm as juveniles and begin to swim around the lake where they stay near the bottom rather than swim near the surface as do all these other larvae. Lake Trout juveniles are identifiable by their large body, presence of adipose fin, pattern of diffuse melanophores over the dorsal and lateral body, and distinct parr marks (dark parallel lines) along the mid-lateral body.

An Open Letter to the Larvalologist

Dear Dr. Faber:

*Pictures of your visit in the Spring of '59
Went into our school yearbook - it was such a groovy time!
We fishes tire of school, you know, and it was quite exciting
To see your lovely netting in the moonlight, so inviting.
Latin words, like Percidae and Atherinidae, behind us,
We felt like true celebrities; the spotlight did unwind us!
How nice to be examined, thus, so Science could determine
How many, or few of us, pollutants round us, might 'exterminate'.
The water, of late, tastes rather odd - please come back to
examine,
So our poor pelagic progeny won't face a fateful future!*

The Water Babies

Andrea Seim (July 1984)

Acknowledgements

I would like to thank, in particular, Sally Gadd for her enthusiasm, interest and moral support over the last decade. Her abilities and interest resulted in a scientific publication (Faber and Gadd 1983) which has helped to advance the 'art' of illustrating larval fishes. Several of her illustrations appear in print for the first time in this article and in the previous one. I would also like thank Dan Cucin, Ontario Ministry of Natural Resources, for his encouragement and companionship during our study of the limnetic larval fishes of Lake Opeongo, Algonquin Park. And finally, I would like thank the members of my family for putting up with me and my overbearing interest and curiosity about various aspects of baby fishes.

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The Importance of Wildlife to Canadians

Bill Gummer

If there was any doubt about the interest of Canadians in any and all aspects of wildlife - knowledge, resources, conservation, management, enjoyment - it is dispelled by a recent publication of the Canadian Wildlife Service. *The Importance of Wildlife to Canadians* is based on a StatsCan survey in 1982, reaching approximately 100,000 Canadians of all sorts and in all regions. It highlights days engaged in wildlife-related activities, expenditures and attitudes. The figures produced may be a bit overwhelming in the parade of bar graphs and pie charts, but they clearly make the point of participatory interest in all aspects of our wildlife. Different people may well focus on different aspects of the survey, but there are a number of points of interest in addition to the summary given in the publication.

This review picks just a few of these points, and please note that "WLRA" will be used for the repeated phrase "wildlife-related activities". The percentages reflect the responses from people 15 years of age and older.

"Non-consumptive Residential WLRA" gives statistics on watching and feeding wildlife; 53.5% of the population watch wildlife, and 40.1% feed wildlife. The feeding efforts of over seven million people must have a significant effect on wildlife.

The further west we go, the more incidental encounters with wildlife during "other trips or outings". In Newfoundland and Prince Edward Island, 29% of the population reported such encounters; in Alberta and British Columbia the figure is 57% and 53% respectively. This is a curious doubling of the incidence across the country.

Hunting was practised in 1981 by a greater proportion of the population in Newfoundland, Nova Scotia and New Brunswick than in other provinces. Ontario reported the lowest value, well below the national average. Other features of the hunting data are that nearly 10% of the population (90% of them males) hunted in 1981, and most are young rather than old. Nearly a third of the population has hunted at least once, and the distribution of this third among provinces is quite unlike that of the actual 1981 hunters. A lot have given up hunting; maybe they are all conservationists and bird-watchers now. It seems to come naturally to older hunters anyway.

Senior citizens show up well in the data on amount of time spent on "Residential WLRA". The over-65s far outdistanced the younger groups with an average of 107 days on which they engaged in such activities. At the other extreme, the age group 20 to 24 years old spent an average of 38.4 days.

Among expenditures on WLRA, 3.6 million Canadians took primary non-consumptive wildlife-related trips in 1981, spending \$37 per trip day for a total of \$2.1 billion. The 1.8 million hunters contributed \$1.2 billion, and their average daily cost also works out to \$37 per hunting day! After these two activities, the next greatest contribution came from "maintaining natural areas", a much smaller \$500,000.

The section on "attitudes toward wildlife" is encouraging, since 80% of our population think it is very or fairly important to maintain abundant wildlife, and 82% think it is very or fairly important to preserve endangered species. And, incidentally, it is in this area that differences between provinces appear to be minor; the bar graphs show rather even balance across the country. Canadians seem to think alike here even if they do a lot of other things differently. We can only hope that governments can act more quickly with respect to endangered species, with these data in support. ▣

Recent Significant Plant Records from the Ottawa District

Part I. Clubmoss Family to Sedge Family

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Ottawa, Ontario K2B 7E4

When Jack Gillett and Dave White produced their annotated checklist to the flora of the Ottawa District (1978), they provided a great service to Ottawa area botany and botanists. Since that time, field botanists have been able to assess quickly the relative rarity of any plant observation or collection in the District. Inevitably, subsequent floristic investigations have altered the status of many species. This is an important function of such checklists, not only to list what is present and/or known but also to identify what is not present or known. As a consequence, Stephen Darbyshire was able to produce a list of revisions to the Checklist (Darbyshire 1982), providing a brief discussion of his understanding of the status for each. This list included sight records as well as collections (although the latter were usually not documented). These observations were very useful and encouraged me to gather my observations into a similar report.

Since 1979 I have studied the flora of the Ottawa District quite extensively. These studies include life science/vegetation inventories undertaken on behalf of the National Capital Commission (Brunton 1980, 1982, 1983, 1984a and 1984b) as well as personal studies alone and with other collectors and observers. A great deal of floristic information has resulted from the estimated 4800 specimens collected (representing over 2200 separate numbers). The significant records from these collections are documented in the following article so that they may help to confirm and/or revise the status of various species in the Ottawa District. The cut-off date for these data is November 1, 1984.

All told, over 270 taxa are discussed in the following accounts. Of these, 16 represent native taxa (species, varieties or hybrids) not on the existing Checklist, and 25 represent new introduced species. Some of the more significant of these will be discussed more fully in separate articles in the future.

To keep this already lengthy report within manageable limits, I am presenting it in three parts, each to be produced in a successive issue of *Trail & Landscape*. Readers are advised to

make marginal notes in their copy of Gillett and White (1978) as there are simply too many comments and additions to recall from memory.

The following list includes only species considered by Gillett and White (1978) to be Sparse (4 to 12 records) or rarer in either the Ontario or Quebec portions of the District or in the District as a whole. Species listed as Uncommon or Common are not discussed as this would add a large number of additional entries (of minimal significance) to an already long list.

To simplify the reporting of species, I have followed a standard format for each. The family names and species order follow Gillett and White (1978). Following the common name (if one exists), the status indicated in the Checklist is noted. Then there is an abbreviated discussion of each taxon and the discoveries of recent collections, followed by a list of the localities of the supporting voucher specimens and the acronyms for the herbaria in which my specimens are deposited. The acronyms are taken mostly from Boivin (1980) and are as follows:

BM	British Museum, London, England
CAN	National Museum of Natural Sciences, Ottawa
DAO	Biosystematics Research Institute, Ottawa
DFB	herbarium of D.F. Brunton, Ottawa
MICH	University of Michigan, Ann Arbor, Mich., U.S.A.
OAC	University of Guelph, Guelph
TRT	University of Toronto, Toronto
TRTE	University of Toronto, Erindale College, Mississauga
WAT	Waterloo University, Waterloo
US	Smithsonian Institution, Washington, D.C., U.S.A.

A concluding line provides a proposed Revised Status designation if such is deemed appropriate from the discussion.

LYCOPODIACEAE CLUBMOSS FAMILY

Lycopodium inundatum (Bog Clubmoss) Sparse

- known from a few scattered sites in the District (Brunton 1974a); common only in the Mer Bleue area (on acid sand ridges and bog margin - especially on Third and Borthwick Ridges (Brunton 1984b)). Specimens: Mer Bleue (DAO, OAC, DFB); NW of Casselman (DAO).

Lycopodium obscurum var. obscurum (= L. obscurum p.pt.) (Ground Pine)

New to List

- recently found to be a complex of two varieties (including L. obscurum var. isophyllum which is fairly common in the District) and two species (including L. dendroideum which is common in the District) (Hickey 1977) - all of which were considered under 'L. obscurum' previously! The typical (an eastern taxon that may be rare in Ontario) is found in five areas of the District in rich

Reminder Notice to OFNC Members

Please don't forget to send your letter regarding the recent cutbacks applied to the Canadian Wildlife Service. Letters should be sent to the following people:

Rt. Hon. Brian Mulroney
Prime Minister
Parliament Buildings
House of Commons
Ottawa, Ontario
K1A 0A6

Madame Suzanne Blais-Grenier
Minister
Department of the Environment
Parliament Buildings
House of Commons
Ottawa, Ontario K1A 0A6

Your local M.P.

(No postage is required)

Thank you for your help.

Supplement to Trail & Landscape
Vol.19 No.1
Jan/Feb 1985

maple forests on acid sand (Brunton 1984b). Specimens: Pinhey Forest (OAC, DFB); Shirleys Bay, Kanata (OAC, DFB); Blackburn Hamlet (DAO); Mer Bleue (OAC, DFB).

Status: Rare Quebec, Sparse Ontario.

Lycopodium selago (Mountain Clubmoss) Rare, Quebec only
- see Brunton 1974a; also found in Proulx Pit, Gatineau Park (by B. Bracken). One small stand is found in an unusual habitat (a dry sandstone ledge) in Ottawa-Carleton. Specimens: Stony Swamp (CAN, DAO, DFB).

Revised Status: Rare.

Lycopodium tristachyum (Ground-cedar) Sparse
- see Brunton 1974a; prefers very dry, open sandy ground in the District. Specimens: Stony Swamp (CAN, DFB); Mer Bleue (OAC, DFB).

SELAGINELLACEAE

SPIKEMOSS FAMILY

Selaginella apoda (Meadow Spikemoss) Rare, Fitzroy Harbour and Shirleys Bay

- found very abundantly still at Innis Point on limestone pavement and at two new sites on Morris Island near Arnprior (M. Runtz, pers. comm.). Specimens: Shirleys Bay, Kanata (CAN, DFB).

Revised Status: Rare along Ottawa River (Ontario only).

Selaginella rupestris (Rock Spikemoss) Sparse (in Ontario)
- Darbyshire (1982) points out that the (acidic rock) habitat of this species is limited in Ottawa-Carleton; otherwise known in the Regional Municipality only from Constance Bay (Brunton 1974b) and Morris Island (Dugal and Reddoch 1980). Specimen: Clarence (CAN).

Revised Status: Rare (in Ontario).

ISOETACEAE

QUILLWORT FAMILY

Isoetes echinospora (Quillwort) Sparse, Quebec only
- see Brunton 1974c; requires fresh, clean, running water and may be overlooked; this collection appears to be the first Ottawa record in the District out of the Gatineau Hills. Specimens: Champlain Bridge, Aylmer (CAN, DFB).

EQUISETACEAE

HORSETAIL FAMILY

Equisetum x jesupe A.A. Eaton
New to List

- found occasionally where parent species (E. variegatum and E. hyemale) intermix (especially along rivers); known from a few older collections as well and may be more common than presently

understood to be. Specimens: Farrelton (CAN, DFB); Shirleys Bay, Nepean and Kanata (CAN, DFB).

Status: Sparse.

Equisetum x litorale (Shore Horsetail) Rare

- scattered along river shores where E. arvense and E. fluviatile coincide; this collection is the first west of the Rideau River; see Lafontaine 1973. Specimens: Shirleys Bay, Nepean (CAN, DFB).

Revised Status: Sparse.

POLYPODIACEAE

FERN FAMILY

Adiantum pedatum (Maidenhair Fern) Sparse (in Ontario)

- locally abundant in rich, mesic maple forests across Ottawa-Carleton. Specimens: Pakenham (CAN, DFB); Shirleys Bay, Kanata (CAN, OAC, DFB); Blackburn Hamlet (CAN, OAC, DFB).

Revised Status: Uncommon (in Ontario).

Asplenium platyneuron (Ebony Spleenwort) Rare

- known from 12 sites in Stony Swamp (Brunton 1982) and advancing its range northward rapidly (Wagner and Johnson 1981); Wilson's Corners site in Quebec (Cody 1978) could not be rediscovered in 1979. Specimens: Stony Swamp (CAN, OAC, DFB).

Revised Status: Rare Quebec, Sparse Ontario.

Dryopteris x boottii (Boott's Woodfern) Sparse

- sterile hybrid between D. cristata and D. intermedia which is found where parents intermix, usually in young, wet, deciduous woodland; also found recently near Kars (B. Bracken pers. comm.) and Greens Creek (Brunton 1983). Specimens: Albion Road (CAN, OAC, DFB); Pinhey Forest (DFB); Stony Swamp (CAN, OAC).

Revised Status: Uncommon.

Dryopteris clintoniana x cristata (hybrid Woodfern)

New to List

- sterile hybrid between two closely related species, to be expected where the parents intermix (in wet sandy sites); easily overlooked but perhaps not too unusual (in Ontario). Specimens: Moodie Dr. (DFB); Shirleys Bay, Nepean (CAN, DFB); Mer Bleue (DFB); Blair Rd. (DFB); Blackburn Hamlet (DFB).

Status: Sparse (Ontario only).

Dryopteris x dowellii Wherry (Dowell's Woodfern)

New to List

- a provincially rare hybrid between D. clintoniana and D. intermedia, it is found in sandy swamp forest in the District (also near Kars) and is rare throughout eastern North America (Wherry 1972). Specimens: Greens Creek (MICH, DFB).

Status: Rare (Ontario only).

Dryopteris goldiana (Goldie's Fern) Sparse

- an indicator of rich, mesic, southern maple forests that was recently removed from the list of Ontario Rare Plants (Argus and White 1983); the Pakenham station (below) involves hundreds of plants. Specimens: Pakenham (CAN, DFB).

Dryopteris x triploidea Wherry (Triploid Woodfern)

New to List

- actually a common (although sterile) hybrid between D. intermedia and D. carthusiana (D. spinulosa), found wherever the two parents intermix (although relatively few specimens have been taken to date). Specimens: Kars (DFB); Moodie Dr. (DFB); Pinhey Forest (CAN).

Status: Common.

Dryopteris x uliginosa Druce (Braun's Woodfern)

New to List

- a rare hybrid of D. carthusiana (D. spinulosa) and D. cristata throughout its range (Wherry 1972, Britton 1965), this taxon is known from only a few Ontario stations; found in low wet hardwoods here. Specimen: Blackburn (DFB).

Status: Rare (Ontario only).

Pellaea atropurpurea (Purple Cliffbrake) Sparse, Quebec only

- prefers marble cliffs with southern exposures in the District (Lafontaine and Brunton 1972) and is rare in Quebec (Bouchard *et al.* 1983); this collection made near Low from a 10-year-old rock face. Specimens: Low (CAN, OAC, DFB).

Polypodium virginianum forma acuminatum Fernald (Diploid Polypody)

New to List

- an Appalachian taxon (possibly distinct species) that is rare and local this far west (Brunton and Lafontaine 1974); has a different chromosome level (and physical features) from typical P. virginianum (Kott and Britton 1982, Brunton and Lafontaine 1974). Specimens: Farrelton (CAN, DFB); Mountain Rd, Gatineau Park (DAO, OAC, DFB).

Status: Rare (Quebec only).

Thelypteris noveboracensis (New York Fern) Sparse

- scattered across the District in sandy, acidic soils under hardwoods (see Cody 1978); common around Mer Bleue (Brunton 1984b). Specimens: Manotick (OAC, DFB); Shirleys Bay, Kanata (CAN, DFB); Blackburn (CAN, OAC, DFB); Blackburn Hamlet (CAN, DFB); Mer Bleue (CAN).

Revised Status: Uncommon.

Woodsia oregana (Oregon Woodsia) Rare

- the only eastern Ontario station of this rare fern is threatened with destruction from housing development by Campeau Corporation in Kanata (Brunton 1981); the stand has been expanding well since its discovery 15 years ago by C. and E. Frankton. Specimen: Kanata (DFB).

PINACEAE

PINE FAMILY

Picea rubens (Red Spruce) Rare, Gatineau Park

- a common upland conifer of the maritime provinces that is approaching the western limit of its range here; found on moist slopes north of the collection site. Specimens: Farrelton (CAN, DFB).

Revised Status: Rare (Quebec only).

CUPRESSACEAE

CYPRESS FAMILY

Juniperus virginiana (Red Juniper) Locally common in Gatineau Park, rare in Ontario

- a southern tree at the northern limit of its range here, it is found infrequently in the District in sheltered sites where it is a relict of a warmer climatic period that dominated this area several thousand years ago (Brunton and Lafontaine 1974). It is found in a number of such sites in the Gatineau Hills, and elsewhere in Ottawa-Carleton is found in widely scattered stations on limestone flats (e.g. Morris Island, The Burnt Lands, and Lemieux Island (Dore 1983)). The new station (below) with almost 50 trees is the largest in the District. Specimens: Harwood Plains (DAO, DFB).

Revised Status: Sparse (Introduced and native).

SPARGANIACEAE

BUR-REED FAMILY

Sparganium americanum (American Bur-reed) Sparse

- widespread boreal species that is known elsewhere in the District only from an extirpated station at Rockcliffe and from Stony Swamp; fairly commonly found along the margins of Mer Bleue (Brunton 1984b). Specimens: Mer Bleue (CAN, DFB).

Revised Status: Rare (Ontario only).

Sparganium chlorocarpum (Green Bur-reed) Sparse

- fairly frequently found along mucky shores on the Quebec side of the District but only in four other sites on the Ontario side; found with S. americanum (above). Specimen: Mer Bleue (CAN).

Revised Status: Uncommon Quebec, Sparse Ontario.

Sparganium minimum (Small Bur-reed) Sparse

- a boreal/subarctic species of calcareous to neutral mucky shores, known elsewhere in the District only from Stony Swamp (Brunton 1982) and a recently-revised collection from Gatineau Park. Specimens: Stony Swamp (DAO, DFB); Mer Bleue (CAN).

Revised Status: Rare.

POTAMOGETONACEAE

PONDWEED FAMILY

Potamogeton foliosus (Leafy Pondweed) Sparse

- found across the District (Dobson and Catling 1983); seems to have a high salt tolerance and grows in pools in the median of the Queensway in very dense patches. Specimens: Greens Creek (CAN, DFB); Mer Bleue (CAN, DAO, DFB).

Revised Status: Uncommon.

Potamogeton pectinatus (Sago) Sparse

- found in quiet calcareous water throughout the District (Dobson and Catling 1983). Specimens: Manotick (CAN, DAO, DFB).

Revised Status: Uncommon Quebec, Common Ontario.

Potamogeton pusillus (Small Pondweed) Sparse

- found regularly in fresh, shallow water across the District (Dobson and Catling 1983). Specimens: Stony Swamp (CAN, DFB).

Revised Status: Common Quebec, Uncommon Ontario.

Potamogeton robbinsii (Robbin's Pondweed) Sparse

- a widespread species in Canada, found usually in deep, fresh, calcareous or circumneutral water. It is found across the Gatineau Hills but in Ottawa-Carleton is found only in the Mississippi River below Carleton Place and (formerly?) the Ottawa River below Britannia. The Morris Island population had mature fruit, a very rare condition with this species (Dobson and Catling 1983). Specimens: Morris Island (DAO, DFB).

Revised Status: Uncommon Quebec, Rare Ontario.

Potamogeton vaseyi (Vasey's Pondweed) Rare

- this inconspicuous, fragile little aquatic is rare in Ontario and Quebec (Argus and White 1977, Bouchard *et al.* 1983). In the District it is found in several Gatineau Park localities in cool fresh water. Elsewhere it was known only from two sites along the Ottawa River east of Ottawa (Dobson and Catling 1983). It is abundant at the Morris Island site. Specimens: Morris Island (CAN, DAO, DFB).

Revised Status: Sparse Quebec, Rare Ontario.

Potamogeton zosteriformis (Flat-stemmed Pondweed) Sparse

- found in quiet, fresh, calcareous to neutral water throughout the District (Dobson and Catling 1983). Specimens: Manotick (CAN, DFB).

Revised Status: Common.

SCHEUCHZERIAACEAE

NUTGRASS FAMILY

Scheuchzeria palustris (Nutgrass) Rare

- long known as a Mer Bleue specialty, it remains common there in areas of most-saturated, graminoid bog mat; known elsewhere in the Richmond Fens (Reddoch 1979) and Gatineau Park. Specimens: Mer Bleue (CAN, DFB).

JUNCAGINACEAE

ARROW GRASS FAMILY

Triglochin maritima (Arrow grass) Rare, Ontario only
- known elsewhere from an extirpated station at "the gas Springs", Mer Bleue (1890s) and from the Richmond Fen and Manion Corners Long Swamp Fen (Reddoch 1979). The Carp collection is highly unusual because it is from an artificial habitat (a ditch). The Cumberland station is only a few kilometres from the long-gone Mer Bleue station. Specimens: Carp (CAN, DFB); NE of Carlsbad Springs (CAN, DAO, DFB).

ALISMATACEAE

WATER PLANTAIN FAMILY

Sagittaria rigida (Sessile-fruited Arrowhead) Sparse
- becoming common, even locally abundant, in polluted waters along the Ottawa River, this seems to be one of the few beneficiaries of the degrading water quality of the Ottawa River(!); forms huge virtually-pure stands in Shirleys Bay. Specimens: Britannia (CAN, DFB), Shirleys Bay, Nepean (CAN, DFB); Champlain Bridge, Aylmer (CAN).
Revised Status: Sparse Quebec, Uncommon (locally abundant) Ontario.

GRAMINEAE

GRASS FAMILY

Andropogon gerardii (Big Bluestem) Sparse, along Ottawa River
- a species of relict shrub prairies that may be declining due to habitat destruction; long known at Innis Point where it continues to thrive. Specimens: Shirleys Bay, Kanata (CAN, DFB).

Andropogon scoparius (Little Bluestem) Sparse, along rivers
- like A. gerardii (above) this is a species of shrub prairies along river shores, but also is weedy along railways (e.g. at Wakefield) and is far more common than the previous species. The Shirleys Bay site is the type locality for var. septentrionalis (the most common form), and it is dominant there. Specimens: Shirleys Bay, Kanata (CAN, DFB).

Beckmannia syzigachne (Steudl.) Fern. (Slough Grass)

New to List

- a native of prairie sloughs and the James Bay coast of Ontario (Dore and McNeill 1980), it is introduced into southern Ontario; first found as a weed at the Experimental Farm about 1890 (specimen at TRT) and recently rediscovered at Borthwick Springs, Gloucester, by P. Catling in 1981. Specimens: Mer Bleue (CAN, DAO, DFB).

Status: Rare, Ontario only.

Brachyelytrum erectum (Bearded Shorthusk) Sparse (in Ontario)
- known elsewhere on the Ontario side from young hardwoods in

Stony Swamp (Brunton 1982), Greens Creek (Brunton 1983) and near Ottawa (Dore 1959). Specimens: Mer Bleue (CAN, DFB).

Bromus tectorum (Downy Chess) Sparse

- a recently arrived weed from the prairies (since 1946), it is a troublesome weed in parts of Ontario and is spreading rapidly along railways; known from a few scattered sites along railroads in the District (Dore 1959). Specimens: Mer Bleue (CAN, DFB).

Cinna arundinacea (Stout Woodreed) Sparse

- a species of rich hardwood forests that is rare in Canada (Argus and White 1977) and which appears to be declining in the District (with all but one previous collection being over 50 years old (Dore 1959)). It is also considered rare in Quebec by Bouchard *et al.* (1983); however, it may be removed from the list of Ontario Rare Plants in subsequent editions (A.A. Reznicek, pers. comm.). Specimens: Blackburn (CAN, DFB).
Revised Status: Rare.

Cinna latifolia (Drooping Woodreed) Sparse (in Ontario)

- restricted to acidic, sandy soils in the vicinity of Ottawa and at Greens Creek (Brunton 1983). Specimens: Blackburn Hamlet (CAN, DFB).

Echinochloa walteri (Walter's Barnyard Grass) Rare, Bourget

- a handsome southern grass of wet meadows and shores, this species is rare in Canada (Argus and White 1977, Bouchard *et al.* 1983). It is found elsewhere in Ontario along the Lake Erie shore (Dore and McNeill 1980). It was discovered in the District by W.G. Dore and W.J. Cody, who found several plants at Cobbs Lake, Bourget (Dore 1952). Despite serious site disturbance since that time, the species is still at that location and now is fairly common. It was growing in a sulphur spring with known halophytes and appears to be quite tolerant of salt (Faust and Roberts 1983). Specimens: Bourget (DAO, TRT, DFB).

Elymus hystrix (Bottle-brush) Sparse

- a fairly common woodland grass of rich southern forests, it is locally abundant across the District; Darbyshire (1982) states that it becomes weedy in places; usually indicates other unusual southern species are present. Specimens: Stony Swamp (CAN, DFB); Greens Creek (CAN); Manotick (CAN); Harwood Plains (DAO, DFB).

Revised Status: Uncommon.

Eragrostis minor Host (= E. poaeoides) Love Grass Sparse,

Ontario only
- a weedy species with a high tolerance for salt, this species is spreading rapidly along the highways of the District (Dore 1959, Brunton 1984b). Specimens: Westboro (CAN, DFB); Britannia (CAN, DFB); Woodroffe Ave., Ottawa (CAN, DAO, DFB); Maitland Ave. (CAN, US); Greens Creek (CAN, US, DFB); Mountain Rd. Gatin-

eau Park (CAN); Mer Bleue (DAO, US, DFB); Stillwater Park, Nepean (CAN, US); Whitehaven (DAO).

Revised Status: Rare Quebec, Uncommon Ontario.

Eragrostis pectinacea (Love Grass) Sparse

- as with E. minor (above) but not as successful a colonizer forming smaller stands. Specimens: Shirleys Bay, Kanata (CAN, DFB); Stony Swamp (CAN, DFB); Deschênes (CAN, US, DFB); Val Têtreau (CAN, DFB); Rockcliffe Air Base (US, DFB).

Revised Status: Sparse Quebec, Uncommon Ontario.

Eragrostis pilosa L. (Love Grass)

New to List

- a weedy species of southern and eastern Quebec, these represent the first records for Ontario (see Dore and McNeill 1980 as E. multicaulis); has spread locally in the last two years.

Specimens: Britannia (CAN, DAO, US, DFB).

Status: Rare (Ontario only).

Festuca arundinacea (Fall Fescue) Sparse

- Darbyshire (1982) describes this as becoming "... much more common ..." in the District and particularly in the Greenbelt.

Specimens: Val Têtreau (CAN, DFB); Alta Vista (CAN, DFB).

Revised Status: Uncommon.

Festuca pratensis (Meadow Fescue) Sparse

- a wide-spread introduction that is becoming increasingly common in the District because of its use in road embankment seeding mixtures (Darbyshire 1982). Specimens: W of Carp (DAO, DFB); Bourget (DAO); Bayshore, Nepean (DAO).

Revised Status: Uncommon.

Festuca rubra (Red Fescue) Sparse

- as with F. pratensis (above); also found commonly in lawn mixtures. Specimens: Britannia (CAN, DFB).

Revised Status: Uncommon.

Festuca tenuifolia Sibth. (= F. capillata) (Hair Fescue) Rare,
Carleton County

- an uncommon weed across southern Ontario (Dore and McNeill 1980) that has been known from this one Ottawa station for 40 years (Dore 1959); it is still abundant at the site but does not seem to be spreading. Specimens: Bells Corners (CAN, DFB).

Festuca trachyphylla (Hackel) Krajina (= F. ovina) (Sheep Fescue) Sparse, Ontario only

- a hardy introduction of dry, sterile, sandy fields and openings in and near the city of Ottawa (Dore 1959); also, perhaps, becoming more common (as with F. rubra and F. pratensis, above). Specimens: Whitehaven, Ottawa (CAN, DFB); Britannia Woods (DAO, DFB).

Revised Status: Uncommon, Ontario only.

Glyceria x laxa (Scribn.) Scribn. (Lax Manna-grass)

New to List

- this hybrid grass has been long known from the Mer Bleue and is the basis for the description of Glyceria x ottawensis by Bowden (1960), a taxon which is considered synonymous with G. x laxa. It is known from only two other sites in Ontario and its parentage (involving G. canadensis and possibly G. striata) is still in doubt. It is also known in the District from Gatineau Park (Dore 1959) and appears to have become more common over the years at Mer Bleue (Brunton 1984b). Specimens: Mer Bleue (DAO, DFB).

Status: Rare, Gatineau Park and Mer Bleue.

Glyceria melicaria (Long Manna Grass) Sparse

- considered rare in Ontario by Argus and White (1977), it is known elsewhere in eastern Ontario only near Casselman (from an old specimen). It is an Appalachian species and is known from a few scattered sites in the Gatineau (Dore 1959). Specimens: Mer Bleue (CAN, DFB).

Revised Status: Sparse Quebec, Rare Ontario.

Hierochloa odorata (Sweet Grass) Sparse

- known from scattered rivershore and roadside sites where it is both native (shores) and introduced (roadsides) (Dore 1959). It is one of a number of native plants of generally more western range that is benefiting from saline habitats resulting from road salting, especially in limestone areas (Catling and McKay 1980), and is becoming more common in the Ottawa District. Specimens: Antrim (CAN, DFB).

Hordeum vulgare (Barley) Scarcely persistent

- persists poorly after cultivation and spreads slowly if at all in most cases; known from agricultural lands in the District. Specimens: Greens Creek (CAN, DFB).

Lolium perenne (Rye Grass) Rare

- a weed of lawns and roadsides across Ontario (Dore and McNeill 1980); Darbyshire (1982) notes that it is found in grass mixtures used for roadside seeding. It appears to be becoming fairly common in the Regional Municipality of Ottawa-Carleton but in Quebec is known only from one record. Specimens: Britannia (CAN, DFB); Manotick (CAN, DFB); Shirleys Bay, Nepean (CAN); Greens Creek (CAN, DAO); Eardley, Gatineau Park (DAO). Revised Status: Rare Quebec, Uncommon Ontario.

Muhlenbergia uniflora (One-flowered Dropseed) Rare, Gatineau

Park

- a common grass of wet, acidic, disturbed sandy shores and meadows in Atlantic Canada, it becomes local and very uncommon as far west as the Ottawa District and has been known here (since 1943) from only one station near our recent collection site in the Gatineau Hills (Dore 1959). Specimens: Ramsay Lake, Gatineau Park (DAO, DFB).

Oryzopsis racemosa (Mountain-rice) Sparse (in Ontario)
- although fairly common in the Gatineau, it is found less frequently in sandy hardwood forests in the Ottawa District. Specimens: Shirleys Bay, Kanata (CAN, DFB); Stony Swamp (CAN, DFB); Harwood Plains (DAO).
Revised Status: Uncommon.

Panicum lanuginosum var. lindheimeri (Nash) Fern. (Smooth Panic Grass)

New to List

- P. lanuginosum is a common species in the District when considered in a broad sense, but usually is considered as a complex of subspecific (or specific) taxa. Variety lindheimeri (or P. lindheimeri) is common on the limey shores of Georgian Bay and on calcareous sands in the upper Ottawa Valley (Dore and McNeill 1980) but was not previously found in the Ottawa District (Dore 1959). Not surprisingly, it occurs here on limestone (alvar) shoreline that is flooded each spring. Specimens: Morris Island (DAO, TRTE, DFB).
Status: Rare (Ontario only).

Panicum milaceum (Millet) Rare escape

- a common constituent of seed mixtures for bird feeders (although ignored by most birds!) that arises from spillage below the feeders and as a rare adventive elsewhere. Specimens: Britannia (DFB); Hazeldean (DAO).
Revised Status: Sparse escape (Ontario only).

Panicum philadelphicum (Philadelphia Witch Grass) Sparse

- a southern species of open limestone pavements and alvars (Catling et al. 1975), this species is rare in Canada (Bouchard et al. 1977) and is known from scattered sites across the Regional Municipality of Ottawa-Carleton (Brunton 1982a). Specimens: Stony Swamp (CAN, DFB); Eagleson Corners (DAO).
Revised Status: Rare Quebec, Sparse Ontario.

Phragmites australis (Cav.) Trin. ex Steudel (= P. communis) (Reed Grass) Sparse

- a common grass of marshes and calcareous shores across southern Ontario and locally common along rivers in the District (Brunton 1984b); apparently becoming more common as a roadside weed in salty, wet areas along highways in the District. Specimens: Stony Swamp (CAN, DFB); Navan (CAN, DFB); Bourget (DAO, DFB).

Poa nemoralis (Wood Meadow Grass) Sparse

- a localized introduction that results from largely unsuccessful lawn plantings in the Ottawa and Hull areas (Dore 1959). It has become common at some sites in Gatineau Park and near Vincent Massey Park (Darbyshire 1982). Specimens: Britannia (DAO, DFB).

Revised Status: Uncommon Quebec, Sparse Ontario.

Puccinellia distans (Lax Puccinellia) Rare

- a salt-tolerant species that is rapidly colonizing saline sites along roadsides across southern Ontario (Catling and McKay 1980) and which is now common along the Queensway and at snow dumps (Darbyshire 1982). Specimens: Queensway - Nepean, Ottawa and Gloucester (CAN, DFB); Victoria Island (CAN); Wakefield (DAO); Jockvale (DAO, DFB); Bourget (DAO, DFB); Carlsbad Springs (CAN).

Revised Status: Sparse Quebec, Common along highways, Ontario.

Puccinellia nuttalliana (Schultes) Hitchc. (Nuttall's Puccinellia)

New to List

- a common species of prairie slough edges, this species becomes very rare in (extreme northwestern) Ontario and is found as a rare introduction in a few places further east (Dore and McNeill 1980). It grows in salt springs in the District. Specimens: Borthwick Springs (DAO, DFB); Bourget (DAO, DFB).

Status: Rare (Ontario only).

Sporobolus vaginiflorus (Ensheathed Dropseed) Sparse

- an abundant grass of loose, gravelly calcareous/neutral roadsides throughout the District (and southern Ontario). The typical variety is considered rare in Ontario by Argus and White (1977), but it seems to be found in many weedy sites with the common var. inaequalis and may not be a distinct taxon in any case. It is the dominant roadside vegetation in much of the District in late summer and fall. Specimens: Barrhaven (CAN, DFB); Carlington (CAN, DFB); Shirleys Bay, Kanata (CAN, DFB); Shirleys Bay, Nepean (DFB); Alta Vista (CAN, DFB); Manotick (DFB); The Burnt Lands (DFB); Queensway, Gloucester (CAN); Mer Bleue (CAN); Champlain Bridge, Aylmer (CAN); Bourget (DAO).

Revised Status: Uncommon Quebec, Common Ontario.

Torreyochloa Fernaldii (Hitchc.) E. Voss (= T. pallida var. fernalidii) (Fernald's Manna Grass) Sparse

- a boreal species of circumneutral wet, mucky ground, it is found scattered across the Quebec side of the District but is rarely on the Ontario side (at Mer Bleue and from old specimens elsewhere). It is fairly common along the margins of Mer Bleue (Brunton 1984b). Specimen: Mer Bleue (DFB).

Revised Status: Sparse Quebec, Rare Ontario.

CYPERACEAE

SEDGE FAMILY

Carex aenea (Copper Sedge) Sparse

- a northern plant of open, sandy sites that is known in the District only from old (extirpated?) records in Quebec and from the Mer Bleue in Ontario (Brunton 1984b). Specimens: Mer Bleue (CAN, DFB).

Revised Status: Rare.

Carex brunnescens (Brownish Sedge) Sparse

- a common sedge of acidic sandy and boggy sites across northern Ontario but with little suitable habitat in the District; common in the Mer Bleue. Specimens: Mer Bleue (CAN, DFB).

Carex chordorrhiza L.f. (Chord Sedge)

New to List

- a characteristic species of northern Ontario fens that is rare and local in southern Ontario. It was discovered in the District in 1983 at the margins of bomb craters (where the bog mat is thinnest) in the Mer Bleue (Brunton 1984b). Specimen: Mer Bleue (DFB).

Status: Rare (Ontario only).

Carex crawei (Crawe's Sedge) Rare, near Almonte

- a northern species that is rare and local on alvars in southern Ontario (Catling *et al.* 1975), it is known elsewhere in the District only at The Burnt Lands near Almonte. Specimens: Shirleys Bay, Kanata (CAN, DFB); Morris Island (DAO, DFB). Revised Status: Rare (Ontario only).

Carex debilis (Weak Sedge) Sparse

- an uncommon boreal species of somewhat acidic, organic/sandy shores that has little suitable habitat in the District. Specimens: Ramsay Lake, Gatineau Park (CAN, DFB).

Carex echinata (Prickly Sedge) Sparse

- as with C. brunnescens (above) but more common on the Quebec side (Brunton 1984b). Specimens: Mer Bleue (CAN, DFB). Revised Status: Uncommon Quebec, Sparse Ontario.

Carex exilis (Starved Sedge) Rare, Mer Bleue

- a species of Atlantic coastal peatlands that becomes increasingly uncommon inland (Reznicek and Ball 1980); it has long been known from Mer Bleue and is abundant there still on the open bog mat (Brunton 1984b). Specimens: Mer Bleue (CAN, DFB).

Carex festucacea (Sedge) Rare, Ontario only

- a poorly understood, rare sedge of low, marshy, calcareous ground nearing the northern limit of its range here (Brunton 1984b). It is known elsewhere in the District only from an old collection at Mer Bleue. Specimens: Greens Creek (CAN, DFB); Shirleys Bay, Kanata (CAN, DFB).

Carex flacca (Heath Sedge) Rare, Carleton County

- a rare introduction in eastern Canada that is known in the District only in Stony Swamp (Brunton 1982); found in 1984 at a second station ca. $\frac{1}{2}$ km from the original stand where it was abundant some years ago when found by C. and E. Frankton but which may have declined greatly since. Specimens: Stony Swamp (DAO, MICH, DFB).

Carex folliculata (Folliculate Sedge) Rare, Mer Bleue and
Gatineau Park
- this handsome sedge is an Atlantic Coastal Plain species that
is rare in Ontario (Ball and White 1982) and Quebec (Bouchard *et al.* 1983) and is known elsewhere in the District only from
Proulx Pit, Gatineau Park, and Baxter Conservation Area, Kars
(Brunton 1984b). Specimens: Mer Bleue (CAN, DFB).
Revised Status: Rare.

Carex grayii (Gray's Sedge) Sparse, along the Ottawa River
- an uncommon southern species of rich, lacustrine soils along
rivers in southern Ontario, it is at the northern limit of its
range in the District (Reznicek and Ball 1974). Known from a
number of rivershore sites in the District and possibly more
common than accepted. Specimens: Pakenham (CAN, DFB); Shirleys
Bay, Kanata (CAN, DFB); Shirleys Bay, Nepean (CAN, DFB); Britan-
nia Woods (CAN, DFB); Leamy Lake (CAN, DFB).
Revised Status: Sparse Quebec, Uncommon Ontario.

Carex hirtifolia (Hairy Sedge) Sparse
- a species of rich, heavy clay/silt soils in mature hardwoods
that is approaching the northern limit of its range in the
District. Known sparingly on the Quebec side (where it is
considered provincially rare (Bouchard *et al.* 1983)) and more
frequently on the Ontario side; possibly only Uncommon. Specimens: Greens Creek (CAN, DFB); South March Highlands (DFB).

Carex hitchcockiana (Hitchcock's Sedge) Rare
- an uncommon species of rich southern hardwood forests that is
at the northern limit of its range at this longitude in the
Ottawa District; elsewhere only from several old records and
from modern collections at the South March Highlands, Fitzroy
Harbour and Stony Swamp. Specimens: Manotick (CAN, DAO, DFB);
Harwood Plains (DAO, DFB).
Revised Status: Sparse (Ontario only).

Carex limosa (Mud Sedge) Rare, Mer Bleue and Dow's Swamp
- a widespread northern species of wet organic mats in fens and
less acid bogs that is local and uncommon in southern Ontario;
known in the District only from two Ottawa area fens and one in
the Gatineau Hills (Reddoch 1979), in addition to Mer Bleue
where it is common (Brunton 1984b). Specimens: Mer Bleue (CAN,
DFB).
Revised Status: Rare, Quebec, Sparse Ontario.

Carex merritt-fernaldii MacK. (= C. brevior p. pt.) (Fernald's
Sedge) Sparse
- a common northern sedge of dry, sandy openings that becomes
rare and local off the Canadian Shield in Ontario; known from
two sites in the Gatineau Hills and elsewhere in Ottawa at
Uplands Airport (Brunton 1984b). Specimens: Mer Bleue (CAN,
DFB).

Carex pauciflora (Few-flowered Sedge) Sparse

- a typical species of northern Ontario fens and less acid bog mats that becomes local in southern Ontario and is found in the District in only a few Ottawa area fens (Reddoch 1979) and one bog in the Gatineau Hills (Brunton 1984b); has been known from Mer Bleue for many years, and it is still quite common there. Specimen: Mer Bleue (CAN).

Revised Status: Rare Quebec, Sparse Ontario.

Carex praegracilis Boott (Slender Sedge)

New to List

- a native prairie species that is spreading rapidly across southern Ontario along roadways in salt-rich, wet areas and which was recently found in several sites in the District along Hwys. 17 and 417 (Brunton and Catling 1982); apparently still spreading in the District; also recently discovered along Hwy. 7 in Stony Swamp (C. Frankton pers. comm.). Specimens: Carp (CAN, DAO, DFB); Antrim (DAO). Status: Sparse (Ontario only).

Carex richardsonii (Richardson's Sedge) Rare, Carleton County

- a widespread western prairie calcicole that is rare and local in southern Ontario, especially in alvar situations (Catling *et al.* 1975); known in the District only from The Burnt Lands Alvar where it is abundant on open limestone pavement. Specimen: The Burnt Lands (DFB).

Carex sychnocephala (Compact Sedge) Sparse

- a widespread but never common species of wet, disturbed, calcareous shores and meadows at the northern limit of its range at this longitude in the District; known elsewhere in the District from old stations near the city (and at Gatineau Point) and from scattered modern sites near Constance Bay and in the Regional Forest. Specimens: Manotick (CAN, DFB).

Revised Status: Rare Quebec, Sparse Ontario.

Carex trisperma (Three-fruited Sedge) Sparse

- as with *C. brunnescens* (above). Specimen: Mer Bleue (DFB).

Revised Status: Uncommon Quebec, Sparse Ontario.

Carex typhina (Cattail Sedge) Sparse

- this is one of the rarest Ontario sedges, known only from a very few 19th Century collections in the Ottawa area and a 1953 collection near Cumberland, and is rare throughout its Canadian range (Brunton 1983). In 1982 it was found in abundance in mature Silver Maple swamp forests along Greens Creek; it is found more regularly along the Ottawa River on the Quebec side (Gagnon 1980) i.e. at Leamy Creek and Pontiac Bay. Specimens: Greens Creek (CAN, DAO, MICH, DFB); Leamy Creek (CAN, DAO, DFB).

Cladium mariscoides (Twig-rush) Sparse

- an uncommon species of calcareous shores and fens in Ontario that is primarily Atlantic Coastal in distribution, it is known

from a scattering of sites in Ottawa-Carleton fens (Reddoch 1979) and from the Gatineau Hills. It may be only Uncommon here. Specimens: Ramsay Lake, Gatineau Park (CAN, DFB).

Dulichium arundinaceum (Three-way Sedge) Sparse

- a common shoreline and shallow-water species of acidic Canadian Shield areas that becomes rare in the limestone areas south of the Shield; known from a variety of places in the District on the Quebec side, and from Richmond Fen (Reddoch 1979), Morris Island (Dugal and Reddoch 1980), Stony Swamp and along the Ottawa River on the Ontario side (Brunton 1984b); Darbyshire (1982) suggests that it is fairly common. Specimens: Shirleys Bay, Kanata (CAN, DFB); Stony Swamp (DAO); Mer Bleue (CAN); Leamy Creek, Hull (CAN); Carp Hills, Kanata (DAO); Hazeldean (DAO).

Revised Status: Uncommon.

Eleocharis intermedia (Intermediate Spike-rush) Sparse

- an uncommon emergent species of calcareous shorelines across southern Ontario, at the northern limit of its range for this longitude in the District (Brunton 1980). Known elsewhere along the Ottawa and Gatineau Rivers. Specimens: Shirleys Bay, Kanata (CAN, DFB).

Eriophorum tenellum (Cotton-grass) Rare

- a species of open bog mats of Atlantic Canada, becoming increasingly more uncommon further westward; known elsewhere only from a few bogs in the Gatineau Hills. Specimen: Mer Bleue (DFB).

Revised Status: Sparse Quebec, Rare Ontario.

Eriophorum virginicum (Virginia Cotton-grass) Sparse

- a common species of bog mats across Ontario and Quebec that is uncommon in the District because of a paucity of suitable habitat; very common in the Mer Bleue and other bogs. Specimen: Mer Bleue (CAN).

Scirpus acutus (Great Bulrush) Sparse

- found occasionally on marly shores and in shallow marshes, on fens (cf. Reddoch 1984) and in mineral springs, often with other Scirpus species. Specimens: NE of Carlsbad Springs (DAO, DFB).

Scirpus hudsonianus (Hudsonian Club-rush) Sparse

- a northern (boreal) species of calcareous sands and fens that becomes rare and local in southern Ontario and is known from only a handful of sites on both sides of the District (Brunton 1984b). Specimens: Mer Bleue (CAN, DFB).

Scirpus pendulus Muhl. (= S. lineatus) (Pendulous Clubrush)

Rare, south limit of area

- a usually rare and local species near the northern limit of its range here in the District, it is considered relatively

common by Darbyshire (1982); now known from a variety of sites across the Ontario side, primarily west of the Rideau River, in wet, disturbed ground (Brunton 1983). Specimens: Stony Swamp (CAN, DFB); Antrim (CAN, DFB); Blair Road, Gloucester (CAN, DFB); NW of Burritts Rapids (DAO, DFB).
Revised Status: Uncommon (Ontario only).

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NCC Winter Program

TAKE ADVANTAGE OF THE COLD SEASON! LEARN ABOUT NATURE IN WINTER

Poke your nose out, enjoy a breath of fresh air by participating in the NCC's nature program. These activities take place on Sundays at the Stony Swamp (828-3620) and Mer Bleue (824-9714) Interpretation Centres.

This year both Open Houses and Program Days are offered. During Open Houses, naturalists will be on hand to answer questions. On Program Days, naturalists will lead you on guided walks. So dress warmly! Guided walks take place at 11 a.m.; 1 p.m. and 3 p.m.

SIGNATURES IN THE SNOW: Follow the trail... learn to identify the signs of animal activity and presence.

Jan. 13 and 27 at Mer Bleue; Jan. 20 at Stony Swamp

OWLS: Open your eyes wide and you will discover the natural history of owls and the various species that live in the region.

Feb. 17 at Stony Swamp; Feb. 24 at Mer Bleue

WILD WINTER GARDENS: Wander in the wild gardens of winter's nature. Explore the trees through their bark and buds. Learn to recognize the colourful fruit on shrubs.

Feb. 3 at Stony Swamp; Feb. 10 at Mer Bleue

OPEN HOUSE: Jan. 13 and 27, Feb. 10 and 24 at Stony Swamp; Jan. 20, Feb. 3 and 17 at Mer Bleue; from 10 a.m. to 4 p.m.

SNOWSHOE UNDER THE STARS: Dress warmly and ready your snowshoes for a wintery evening walk. The naturalists await you regardless of snow or weather conditions!

Both programs take place at the Mer Bleue Interpretation Centre, from 8 p.m. to 10 p.m. on Saturdays Jan. 19 and Feb. 9.

PRESCHOOL PROGRAM: Special nature outings for youngsters from 3 to 5 years old accompanied by an adult take place at Stony Swamp Interpretation Centre on the first Wednesday of each month from 10 a.m. to 11 a.m. and from 1 p.m. to 2 p.m.

January 2 Feet for winter walking; February 6 Fur, feathers and other warm homes; March 6 Winter houses in trees; April 3 The maple's gift.

Book Review: *The Vascular Plant Flora of Peel County, Ontario*

by Jocelyn Webber. 1984. Published by and obtainable from: Botany Press, 90 Wolfrey Avenue, Toronto, Ontario M4K 1K8. 94 pp. \$10.00.

In spite of its title, this publication is not strictly a flora but an annotated checklist. This list has been in preparation since 1973, and the author has devoted much time and effort to collecting plants, gathering literature and records, and searching numerous herbaria (300,000 sheets in four herbaria) for specimens from Peel County. This is a thoroughly researched list, and a large number of authorities have been consulted to ensure its accuracy.

The checklist is preceded by discussion on a variety of topics: the physical environment (geography, geomorphology, soils), climatic regions, floristics, botanically significant areas, recent impact on the flora, vegetation, history of botanical studies, methods of preparation of the checklist. The annotated list follows. It is a most comprehensive list of references, and an index to families and genera. The booklet is 8 x 10½" (20 x 26.7 cm). The tan cover has a map of southern Ontario to show clearly the location of Peel County. The type is clear, single-spaced with scientific names italicized. A series of symbols indicates status of species as rare, introduced, and so forth. Distribution in the five townships is indicated, and an "abundance code" based on record number is assigned.

Why should local Ottawa naturalists be interested in a flora of a county located so many kilometres from Ottawa? Two reasons are immediately apparent: to compare our flora with that of a more southern Ontario locale, and to scan the very thorough bibliography provided with a view to using some references in the study of our flora. [Of course our southern Ontario readers will find this list more directly relevant. JMR]

One of the most significant items pointed out in the text is demonstrated by the statistical portion. About 10% of the flora is presumed extinct (no records for about 20 years), 59 taxa are considered rare in Ontario (4.4% of the flora). Other disturbing statistics presented indicate the growing influence of man (the principle extirpator) and the realization that such trends are present in our own local flora but perhaps ameliorated somewhat by the protective presence of Gatineau Park and the Greenbelt, areas lacking in Peel.

This checklist will undoubtedly be useful, not only for the reasons given to justify its production by Webber, but also for

the food for thought afforded by analytical examination of the species list.

In conclusion, I thought it might be useful to prepare a rough comparison of our flora with this one, bearing in mind that the use of family, generic and species names are often not comparable.

	Families	Genera	Species
Ottawa District	123	529	1420
Peel County	130	539	1334

John M. Gillett
National Museum of Natural Sciences
Ottawa, Ontario ☐

Snowy Owl

Newcomers drive country roads on winter mornings
searching for some welcome in ice-beaten fields.
Their eyes sting with snowsteam, ache with hope.

Suddenly on a fencepost
sits a billow of snow,
precariously balanced.

The newcomers nod and chatter among themselves:
in a flurry of cameras and binoculars
they turn up collars, pull on mitts.

An eager knot of observers gathers at the roadside,
thick-lensed eyes focussed on the fencepost.

A cry of recognition curls upwards, mists the glasses.
Snowy Owl sits snug in speckled feathers.
His swivel head makes its predatory search,
razor beak tucked away till screeching hour.

Reassured, the newcomers tumble back inside the car.
These hushed fields are favoured hunting grounds,
chosen provision for winter's long nourishment.

Memories of lost homelands recede
as the car heads back to urban warmth.

Linda Jeays

Chaffey's Locks Revisited

Mary Stuart

This popular outing, and the fact that it was a perfect day for it last June, drew more than 65 members and friends. Again Mr. and Mrs. Barton of the Skycroft Camp Grounds allowed us to use their facilities and their beautiful wooded trails.

This location, expected to be a particularly good one for butterflies at this time, was a disappointment to Peter Hall. He was able to show us the uncommon Indian Skipper and a colony of Hobomok Skippers including the uncommon dark female form, but there were few other butterflies flying.

Roger Taylor had covered parts of the trail in preparation for us, and he had a good look at the unusual Golden-winged Warbler. By the time we arrived it had moved off, and we heard only snatches of its song in the distance. In addition to the usual birds one expects to see at this time, there were thrilling displays by a pair of Northern Cardinals. Indigo Buntings and Cerulean Warblers were also seen. A number of Turkey Vultures drifted overhead.



Some of the group took the boat trip to see nesting Osprey at Chaffey's Locks. photo from a slide by Peter Hall

Bob Bracken was along, and his infectious enthusiasm for his subject had us looking for ferns. In the wet spots there were Cinnamon, Interrupted, Sensitive, Ostrich, Bulblet, Long Beech and Maidenhair Ferns; on rock and higher ground there were Marginal Shield, Christmas and Polypody Ferns, to name only a few.

We saw two snakes. Our first find was the dainty Eastern Smooth Green Snake. It is considered to be common in Ontario, but because of its protective colouring and its speed is seldom seen. The Black Rat Snakes were at the Queen's Biology Station where a member of the staff is studying their living habits. The Black Rat Snake is Canada's largest snake. At one time it was quite numerous in Ontario but has been nearly exterminated. It may still be found in Frontenac and Leeds counties and a few points along Lake Erie.

After lunch we set off on foot for Mount Marvin, a rocky, well-wooded hill. Bob searched for a stand of Smooth Cliff Brake he had seen on an earlier trip, but like the butterflies it had vanished. Among the rocks, Rusty Woodsia was plentiful. At the top of the rise there were Corydalis everywhere and, of particular interest to me, four stands of Wood Lilies.

After our stiff climb and our drive to the Queen's Biology Station, most of us were happy to swim at the beach, take the boat trip to see the nesting Osprey or just sit and chat with friends. The cooks made a beautiful job of the steaks and other goodies. It was a wonderfully full day, and we are looking forward to the 1985 trip. ▢

Ski Orienteering Course at University of Ottawa

This course has been designed for experienced cross-country skiers, with the ability to cover 20-30 km of trail in a day, who want to become more familiar with the use of map and compass to find their way in complex trail networks as well as in uncharted terrain. This course is given in cooperation with the Canadian Orienteering Federation. Instructor: Michael MacConaill, veteran orienteer and cross-country skier.

There will be two sessions, February 12 and 14, 7:30-9:30 p.m., plus two half-day weekend excursions. Fee: \$60.

For further information and registration, contact the University of Ottawa Service for Continuing Education, 5 Osgoode Street, Ottawa, Ontario K1N 6N5, telephone 231-4263.

Fall Birding from Morrisburg to Cornwall

Bruce M. Di Labio

Seven a.m. last September 15th saw a total of 18 people at the National Museum of Natural Sciences preparing for a birding trip to the St. Lawrence River area despite weather which was rainy and cool. A convoy of eight cars left Ottawa on Highway 31 to Morrisburg. After a brief stop near Highway 401, the intensive birding began at the Morrisburg Marina where three adult male White-winged Scoters were seen flying by. At the Morrisburg sewage lagoon feeding over the water were four species of swallows: Tree, Barn, Bank and Cliff.

On mud flats at Riverside Park, 15 Black-bellied Plovers were found along with six Sanderlings as well as a few Great Blue Herons, and at Crysler Park Marina an adult Great Black-backed Gull was observed. Along the Ault Island Road causeway a flock of American Wigeon were feeding together with Gadwalls, Mallards, Wood Ducks and a female Hooded Merganser.

At the Upper Canada Migratory Bird Sanctuary on Nairne Island the weather turned from a drizzle into a steady rain. While we were eating lunch under a shelter, an immature Bald Eagle alighted in a large tree nearby giving everyone an exceptionally good view even in the rain. We were close enough to the water dripping off the bill. Because of the early date of the trip there were only a few small flocks of Canada Geese at the sanctuary.

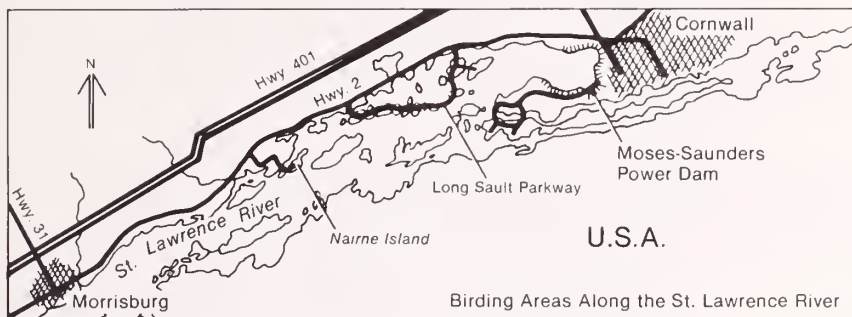
At the next stop, the Moses-Saunders Power Dam at Cornwall, a total of five species of gulls were observed with Ring-billed and Herring being the commonest. Unfortunately a large percentage of the birds were on the American side making viewing difficult, but we were able to find four Little Gulls (three adults and one immature), eight Great Black-backed Gulls and 70 Bonaparte's Gulls. As well, a small flock of Yellow-rumped Warblers with two Tennessees was observed.

The next stop was Hoople Creek where most of the mud flat was dry, and 10 species of shorebirds were feeding around the small creek. Among the the shorebirds were 35 Semipalmated Sandpipers, 12 Least Sandpipers, eight Pectoral Sandpipers, four White-rumped Sandpipers, one Dunlin and two Baird's Sandpipers. The weather began to improve, and by the time we left Hoople Creek around 4 p.m. the sun was showing through the broken cloud cover. On the way back to Ottawa, the last stop was the Winchester Sewage Lagoon. It proved disappointing, but in a nearby field there was a flock of 108 Golden Plovers.

We arrived back in Ottawa with a total count of 76 species.

Having the trip early this year definitely contributed to the large number of species seen (partly by avoiding the duck hunting season). This time of year also provided some interesting migratory sightings, particularly the notable numbers of Northern Flickers and Blue Jays.

I would like to thank the participants for their enthusiasm despite the rain.



Note: access to the Moses-Saunders Power Dam property is by special permission only. ▢

Natural History Workshop at Carleton University

The Department of Biology at Carleton University, in co-operation with the School of Continuing Education, has launched a series of workshops in natural history for interested Ottawa area residents. Based in the new Natural History Centre in the Tory Building, the series consists of modules designed to reflect the changing seasons. The modules will present the significance and relationships of the living world around us through discussions and outdoor workshops. Enrolment is limited to 15 participants per workshop. Transportation will be provided for the field trips. Coordinator of this series is I.L. Bayly of Carleton's Department of Biology.

There's Snow Out There! (a look at life in the winter months)

This three-day workshop will provide insight into the most difficult time of all for boreal plants and animals. There will be daily field trips to examine the qualities of snow itself, and demonstrations in the field of the methods used by plants and animals to cope with winter. Films and slides in the lab will illustrate features of the field trips plus additional facets of winter activity. Course leaders: Isabel Bayly, Don Smith and Gray Merriam.

Dates: February 20, 21 and 22; Fee: \$70 (or \$25 per day). For registration information, call the School of Continuing Education, Carleton University, at 231-6660.

Coming Events

arranged by the Excursions and Lectures Committee
Philip Martin (729-3218), Chairman

Times stated for excursions are departure times. Please arrive earlier; leaders start promptly. If you need a ride, don't hesitate to ask the leader. Restricted trips will be open to non-members only after the indicated deadlines.

Tuesday	ANNUAL BUSINESS MEETING
8 Jan.	Meet: Auditorium, National Museum of Natural Sciences, Metcalfe and McLeod Streets
8:00 p.m.	What's in a name? The motion to change the name of the Club to "Ottawa Field Naturalists" is still under discussion. Come and air your views. The business meeting will be followed by <i>The Rise and Fall of the Great Lakes</i> , an entertaining 16-minute, award-winning National Film Board movie on the geological history of the Great Lakes. The program will be followed by refreshments and an opportunity to meet other members and the various committee members.

Sunday	TOUR OF CARLETON UNIVERSITY GREENHOUSES (ELBA)
20 Jan.	Leader: Bill Illman
2:00 p.m.	Meet: at the greenhouses; parking is available in Lot 3 across from the greenhouses in the southeast section of the campus opposite the Administration Building. (Follow the main university entrance road from Bronson Avenue keeping left at the fork.)
	What better way to spend a winter afternoon? This popular tour under Professor Illman's enthusiastic guidance will feature an interesting variety of plants from different habitats.

Sunday	WINTER BIRDING IN THE LOW-POLTIMORE AREA
27 Jan.	Leader: Bruce Di Labio (729-6267)
7:00 a.m.	Meet: National Museum of Natural Sciences, front entrance, Metcalfe and McLeod Streets
	Ravens frequent this area, as do Boreal Chickadees and winter finches such as crossbills. Bring binoculars, a lunch, and a hot drink for this all-day outing. Dress warmly. Transportation will be by private car.

Tuesday	OFNC MONTHLY MEETING
12 Feb.	SPRING WILDFLOWERS
8:00 p.m.	Speaker: Erich Haber
	Meet: Auditorium, National Museum of Natural Sciences, Metcalfe and McLeod Streets
	This illustrated talk is especially recommended for those who are weary of winter. Erich, who is an Assistant Curator in the Botany Division of the Museum, is a knowledgeable and experienced guide to the Ottawa Valley flora.

Thursday	SEMINAR ON CREPUSCULAR AND NOCTURNAL BIRDS
14 Feb.	Meet: Room 15, National Museum of Natural Sciences, Metcalfe and McLeod Streets
7:30 p.m.	Part of the Ontario Bird Breeding Atlas Project designed to help people get out in the last year of the Atlas to look for these elusive species. Everyone is welcome.

Saturday	WINTER BIRD BUS TRIP TO THE AMHERST AREA
16 Feb.	Leader: to be decided
7:30 a.m.	Meet: National Museum of Natural Sciences, front entrance, Metcalfe and McLeod Streets
	Cost: none
	The outing will probably include a visit to Amherst or Wolfe Island to observe owls. Dress warmly; bring binoculars and a hearty lunch. The bus should return to Ottawa by 6 p.m. Register early by telephoning the Club number (722-3050). The National Museum of Natural Sciences will provide the Dinobus free of charge.

Sunday	WINTER WEEDS
17 Feb.	Leaders: Frank Bell, Bill Arthurs and Ellaine Dickson
9:00 a.m.	Meet: National Museum of Natural Sciences, front entrance, Metcalfe and McLeod Streets
	This outdoor workshop is designed to increase your enjoyment of winter hikes. <i>Weeds in Winter</i> by Lauren Brown will be used as a reference book. See the article <i>Winter Wildflowers in Ottawa</i> by Ross Anderson in the January-February 1983 issue of <i>Trail & Landscape</i> . Dress warmly and bring a lunch.

Saturday
23 Feb. MADAWASKA WILDERNESS SKI TRIP FOR INTERMEDIATE-
ABILITY CROSS COUNTRY SKIERS
Leaders: Sheila and Harry Thomson (234-0845)
Participants need not be marathoners for this all-day outing. The skiers probably will divide into two groups, one to cover five to six km and the other 15 km. To register for an enjoyable day exploring a winter wilderness and to obtain further details, telephone the leaders by February 20th.

AN INVITATION FROM THE OTTAWA BANDING GROUP

The Ottawa Banding Group extends an open invitation to those interested in learning about their operation or simply wanting to observe some of our native bird species in the hand. Arrangements can be made to visit the banding station (40 minutes from Parliament Hill on the Ottawa River) on weekends by writing to Ottawa Banding Group, P.O. Box 3633, Postal Station C, Ottawa, Ontario K1Y 4J7.

FIELD TRIP TO ALBERTA'S DINOSAUR BADLANDS

July 2 to 9 inclusive, 1985; Leader: Janette Dean

This trip will be a splendid opportunity to see dinosaur remains both *in situ* and in the newly opened Tyrell Museum. Other highlights of this trip to a fascinating region of Canada will be interesting geological structures (for example, hoodoos), birds and plants of the western badlands. Participants are also likely to see Pronghorn Antelope en route to Dinosaur World Park.

The total cost per person is \$1,170 for double occupancy. A deposit of \$854 is required at time of booking with the balance due by May 1st. These prices include 7 breakfasts, 7 box lunches, 7 suppers, service charges, taxes, gratuities and all baggage handling charges, return airfare from Ottawa to Calgary with CP Air, accomodation for one night at the Sheraton Hotel in Calgary and 6 nights in the Drumheller Inn, and tours in an air-conditioned bus.

Janette Dean will escort the tour from Ottawa. Please contact Faith at Handa Travel (731-1111) for further details.



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DON'T FORGET THE POINT PEELE TEST.

Finally, we'll again be travelling to Point Pelee National Park during spring and summer. The days of departure are May 22nd, returning on the 26th. The trip is an only if there is a good early response. If you are interested, telephone the club leader, Lisa Smith.

OTTAWA ATLASERS BLITZ ALGONQUIN IN 1985

After we spent the long winter with no response at all to our call for help, the competition twice opened in 1985, the last year of the Atlas project. The first was, indeed, far ahead of us in terms of squares and total verminosity in Atlas Club. We were almost discouraged and almost planning to stop. But, drawing strength and will to defeat us we were able to improve by jumping up to the top, defeating and demolishing our opponents.

All this was done in the 1985, 1986 years. After the 1986-1987 season, we have been 1987-1988 to 1989-1990. The further information.

Attention All Members:

1988 membership lists are now in. Please check promptly, and if possible, return by May 1st and add to your 1988's list.

Members who have not renewed their membership by Feb. 1st, 1988 will not receive the new edition of the 1988 Yearbook. Renewal should be equivalent to those who renew late. It is required to renew.

Library: 1988-1989, 1989-1990, 1990-1991, 1991-1992, 1992-1993, 1993-1994, 1994-1995, 1995-1996, 1996-1997, 1997-1998, 1998-1999, 1999-2000, 2000-2001, 2001-2002, 2002-2003, 2003-2004, 2004-2005, 2005-2006, 2006-2007, 2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, 2022-2023, 2023-2024, 2024-2025, 2025-2026, 2026-2027, 2027-2028, 2028-2029, 2029-2030, 2030-2031, 2031-2032, 2032-2033, 2033-2034, 2034-2035, 2035-2036, 2036-2037, 2037-2038, 2038-2039, 2039-2040, 2040-2041, 2041-2042, 2042-2043, 2043-2044, 2044-2045, 2045-2046, 2046-2047, 2047-2048, 2048-2049, 2049-2050, 2050-2051, 2051-2052, 2052-2053, 2053-2054, 2054-2055, 2055-2056, 2056-2057, 2057-2058, 2058-2059, 2059-2060, 2060-2061, 2061-2062, 2062-2063, 2063-2064, 2064-2065, 2065-2066, 2066-2067, 2067-2068, 2068-2069, 2069-2070, 2070-2071, 2071-2072, 2072-2073, 2073-2074, 2074-2075, 2075-2076, 2076-2077, 2077-2078, 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